

EXHIBIT N-1

TECHNICAL REQUIREMENTS – ORIGINAL PROJECT

[See attached]

**ROUTE 495 HOT LANES
IN VIRGINIA PROJECT**

**AMENDED AND RESTATED
COMPREHENSIVE AGREEMENT**

EXHIBIT N

TECHNICAL REQUIREMENTS

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1 Project Management

1.1 General

- a) The Concessionaire shall establish and maintain an organization that effectively manages all elements of the Project. This Project management effort will be defined and guided by the Project Development Plans. The Project Development Plans describe the Concessionaire's managerial approach, strategy, and quality procedures to design, build, operate, and maintain the Project and achieve all relevant requirements of the ARCA. The requirements for the Project Development Plans are outlined in Section 1.3.
- b) Project management activities, including scope, schedule, cost and document management will be consistent with the Project Work Breakdown Structure (WBS) developed by the Concessionaire.

1.2 Project Administration

1.2.1 General Requirements

- a) The Concessionaire shall be responsible for management of the planning, execution, and control of all aspects of the Work. The Concessionaire shall also be responsible for coordinating its activities with the Department, its subcontractors and suppliers, relevant Governmental Authorities and other entities who are directly or indirectly impacted by the Project. The Concessionaire shall be responsible for documenting and reporting all Work in accordance with the requirements of the ARCA.
- b) The Concessionaire's management approach shall provide all components of an effective and efficient management system, including communication and reporting; documentation of Work; supervision of Work personnel and activities; all tools, facilities and materials; environmental protection and mitigation; safety of Work personnel; interface with stakeholders in accordance with the Public Information Plan; and any other management elements needed to produce and document a high-quality, safe, efficient and operable Project that complies with the applicable environmental requirements.

1.2.2 Department staffing and points of contact

- a) The Department will provide a project-specific management structure with a combination of dedicated and shared resources to manage the Project. Overall Department management of the Route 495 Hot Lanes in Virginia Project will be the responsibility of a full-time senior-level Department Project Manager (Project Manager), supported by a Deputy Project Manager. The Project Manager/Deputy Project Manager will be the primary points of contact.
- b) Overall project oversight will be provided by the Department's NoVA District Regional Transportation Program Director.
- c) Due to the size and complexity of the Project, the Project Manager will have support through the placement of experienced, senior-level Department employees in each responsibility area. In addition, a Central Office Program Manager will be assigned to the Project to assist the Project Manager, as needed.
- d) The Department will procure a general engineering consultant (GEC) who will augment the technical and management resources available to the Project Manager. Specific support to be provided by the GEC may include management support to the Project Manager, project and construction monitoring and overall program responsibility for oversight of project controls, safety, environmental, right-of-way and the public outreach programs to support implementation of the project. The Department's Project Manager will provide oversight and direction to the GEC.

- e) The Department may provide one or more full-time staff positions to help support the Project Manager. As the Project develops additional resources and functional expertise will be added, as needed. This support may include additional Department staff or the use of consultants.

1.2.3 Quality Management System

- a) The Concessionaire shall cause to be developed, implemented and maintained a quality management system that includes a comprehensive Quality Management Plan that is consistent with the relevant requirements of the current version of ISO 9001 or update thereof.
- b) The Quality Management Plan shall describe the system, policies, and procedures that address the work required to deliver the Project and provide documented evidence that the work was performed in accordance with the Agreement.
- c) The Concessionaire's quality management system will include a Quality Management Plan that requires the Concessionaire's D-B Contractor and O-M Contractor to develop, implement and maintain a quality management system for the Work.
- d) The Concessionaire and its contractors will comply with their respective quality systems and with the Quality Management Plan.
- e) The Concessionaire and its contractors will have their compliance with any Project Development Plan regularly audited as a part of their quality systems.
- f) The Concessionaire and its contractors will ensure that their quality records are freely and readily available to the Independent Engineer and the Department in order to enable the Department and the Independent Engineer (IE) to monitor and establish whether the Concessionaire's obligations under the Contract are met.
- g) The Concessionaire will engage the Independent Engineer (IE) to provide independent Quality Assurance of the Work. The IE services are defined in Exhibit G.
- h) The Department will perform the following Construction Quality Control activities:
 - i. off-site inspection, including supplier plant acceptance inspections
 - ii. off-site testing, including supplier plant acceptance testing

1.2.4 Quality Management Systems Plan

- a) Unless otherwise approved by the Department, the Concessionaire's Quality Management System Plan will meet the Department's Minimum Quality Control & Quality Assurance Requirements for Design-Build & Public Private Transportation Act Projects, 'The Minimum QC/QA Requirements', including its approach, testing frequencies, and certification forms. Where appropriate the QMS Plan will also incorporate requirements from the Virginia Department of Transportation Manual of Instruction-Materials Division and other pertinent Department Documents.
- b) The Department and Concessionaire will meet within 30 days of Closing Date to discuss the testing frequencies described in The Minimum QC/QA Requirements to clarify any specific issues, achieve common understanding on the provisions of The Minimum QC/QA Requirements and to agree the testing frequency chart.
- c) Following the onset of construction and successful delivery of quality construction Work for a period of at least eight months, the Concessionaire may make reasonable proposals to accomplish quality control and quality assurance in a manner that may differ from the specific procedures set forth in The Minimum QC/QA Requirements, but that still result in the delivery of the Work with the requisite level of quality. The proposals may be adopted subject to the reasonable agreement of the Department. If the parties cannot agree on changes, The Minimum QC/QA Requirements will prevail.

1.2.5 Submittals

- a) The Concessionaire shall coordinate, deliver and process all submittals to the Department as required by the ARCA. The Concessionaire shall cause all draft, revised and final submittals to be accurate, complete and in a form and level of detail, that satisfies the Department's design submittal requirements.
- b) Wherever the Concessionaire is obligated to make a submittal to the Department, the Concessionaire is required to provide a duplicate to the IE.
- c) Wherever the Concessionaire is obligated to make a submittal to the IE, the Concessionaire is required to provide a duplicate to the Department.
- d) The Concessionaire shall include as a part of his Initial Baseline Schedule a schedule of proposed major submittals.
- e) The Concessionaire shall provide with his Baseline Schedule a schedule of submittals and shall update the schedule of submittals monthly in accordance with Section 1.3.
- f) If at any given time the Concessionaire makes multiple submittals the Concessionaire shall indicate to the Department and the Independent Engineer the priority assigned to each submittal and the Department and the IE will expedite the review of the prioritized submittals.
- g) Review documents will be Approved for Construction (AFC) Documents covering individual work packages, including interface points that are being used by the Concessionaire during its design review process.
- h) AFC Documents will be all drawings, specifications, revisions thereto, and any other items necessary to construct the Work. AFC Documents will be sealed by the Engineering Consultant and verified by the Independent Engineer.

1.2.6 Comparative roles of the Department and IE for approval/consent

- a) The role of the Independent Engineer in review and approval is defined in the Independent Engineer's Agreement in Exhibit G.

1.2.7 Accommodations for Department staff

- a) The Project office will include 2 visitor offices and parking available for 5 visitors for the use of the Department and other personnel working under the direction of the Department, including FHWA. Each visitor office shall have internet access and telephone conferencing facilities.

1.2.8 Location of offices

- a) The Concessionaire will establish a Project office adjacent to the Project.
- b) The Concessionaire's construction staff will be located in field offices located on or adjacent to the Project.
- c) The Department will provide for reciprocal visitor offices and parking as specified in Section 1.2.6.

1.2.9 Document management systems

- a) The Concessionaire shall establish and maintain an Electronic Document Management System (EDMS) to store and record all relevant documents generated on the Project including those records required under State and Federal law.
- b) In the provision of a document management system, the Concessionaire shall:
 - i. Use data systems, standards and procedures with consistent naming and searching protocols
 - ii. Ensures document retention for the minimum statutory periods.

- iii. Provide a secure EDMS, such that only authorized users have access and that it is protected from theft, damage, unauthorized or malicious use.
 - iv. Provide a mechanism (mutually agreed by both parties) for the electronic transfer of meta data along with the associated document in standard business file format for uploading into the Electronic Document Management System (EDMS) employed by the Department.
 - v. Provide the Department with procedures for accessing all relevant documents generated under the ARCA. All electronic information submitted to the Department shall be searchable and legible.
- c) Concessionaire and the Department will mutually agree the format needed for O&M Records to be capable of being integrated into their respective asset management systems consistent with Good Industry Practice.
- d) In the relevant PDP, Concessionaire shall describe:
- i. Methods by which all documents issued and received by the Concessionaire will be uniquely coded and retrievable in a user-friendly format.
 - ii. The routing, filing, control, and retrieval methods for all documents.
 - iii. Methods to facilitate sharing of data including procedures for accessing all documents.

1.3 Project Development Plans

1.3.1 General Requirements

- a) The Concessionaire shall develop Project Development Plans as defined in Section 1.3.2.
- b) The Concessionaire Management Plan is an umbrella document that describes the Concessionaire's managerial approach, strategy, and quality procedures to design, build, and maintain the Project and achieve all requirements of the ARCA. The Concessionaire Management Plan shall include an organization chart outlining the basic structure of the Concessionaire's Project organization including the design, construction, operations and maintenance sub-organizations and a description of the roles, responsibilities, and Work to be accomplished by each member of the management team and each sub-organization, including identified Subcontractors and suppliers.
- c) The Concessionaire Management Plan shall address the Concessionaire's procedures for preparation of amendments and submission of amendments to any part of the PDP.
- d) The Project Development Plans will be compatible with and comply with the requirements of the Quality Management System Plan.

1.3.2 Project Development Plans

- a) The Project Development Plans the Concessionaire will prepare, implement and update are:
 - i. Concessionaire Management Plan
 - ii. Document Management Plan
 - iii. DBE/SWaM Plan (Work Period)
 - iv. Health, Safety and Security Plan
 - v. Environmental Management Plan
 - vi. Quality Management System Plan
 - vii. Design Management Plan
 - viii. ROW Acquisition Plan

- ix. Utilities Plan
 - x. Construction Management Plan
 - xi. Transportation Management Plan
 - xii. Maintenance of Traffic (MOT) Plan
 - xiii. Communications, Public Outreach and Community Education Plan
 - xiv. Public Information Plan (PIP) (Construction Works)
 - xv. Operations and Maintenance Plan
 - xvi. Life Cycle Maintenance Plan (operations phase)
- b) The Department and the Independent Engineer will audit and monitor the activities described in the Project Development Plans to assess the Concessionaire's compliance. All statements contained in the PDP shall be of an auditable nature.

1.3.3 Updating of Project Development Plans

- a) A Project Development Plan or procedure will be reviewed and, if necessary, updated annually and in any event if it:
- i. does not adequately address the matters it is intended to address
 - ii. does not conform or is otherwise necessary to comply with the ARCA
 - iii. has to be changed because of an audit
 - iv. no longer represents current or appropriate practice
 - v. is required by the ARCA to be updated

1.3.4 Submission Timetable

- a) The Project Development Plans will be developed in accordance with the milestones defined in the Contract Schedules.
- b) PDPs must be reviewed by the Department before implementation, and following changes that materially affect the prosecution of the Works or operation of the HOT lanes.
- c) The Department shall review the Project Development Plans and provide any comments to the Concessionaire within 21 days of receipt of the Project Plans.
- d) The Department rights of rejection of a PDP are limited to issues that in the view of the IE and/or the Department would be likely to lead to the Concessionaire to be in breach of, or unable to meet, the contract requirements, or that the plan would be of, or would contain elements of, a lower standard than the Concessionaire's initial Project Development Plans presented in Attachment 1.3.
- e) The submission timetable is presented in Attachment 1.3.

1.4 Contract Schedules

1.4.1 Contract Schedules

- a) Contract Schedules include the Initial Baseline Schedule, Proposed Baseline Schedule, Baseline Schedule, Updated Baseline Schedules, Monthly Progress Schedule and the As-Built Schedule.
- b) The Initial Baseline Schedule is the Concessionaire's conceptual plan for the design and construction of the project and is included in Exhibit O (Initial Baseline Schedule) and is the

- schedule used to monitor performance of the Work until the Proposed Baseline Schedule is approved by the Department.
- c) The Proposed Baseline Schedule is the Concessionaire's proposed detailed plan for the design and construction of the Project.
 - d) The Baseline Schedule is the Concessionaire's detailed plan for the design and construction of the Project, which has been approved by the Department.
 - e) The Concessionaire shall develop the Proposed Baseline Schedule from the Initial Baseline Schedule.
 - f) The Concessionaire shall submit the Proposed Baseline Schedule to the Department for review and approval within 60 days of the issuance of the Work Commencement Approval. It will be submitted in 5 copies of 11x17 size and an electronic file in a format to be mutually agreed upon. Upon approval by the Department, the Proposed Baseline Schedule will become the Baseline Schedule.
 - g) The Baseline Schedule submittal shall include a separate narrative report which describes, in general fashion, the Concessionaire's work breakdown structure and the Concessionaire's proposed methods for designing and constructing the major portions of the Work. The schedule narrative shall describe the general sequence of design and construction, the initial Critical Path of the Project, and all Critical Path Milestone Schedule Deadlines.
 - h) The Baseline Schedule shall include all major activities of the Works in sufficient detail to enable the IE and the Department to monitor and evaluate design and construction progress, from commencement of the Project to Final Acceptance. The Baseline Schedule shall also include activities for ROW acquisition, Utility Relocations, permit acquisitions, and interfaces with other projects, localities, municipalities and other Governmental Authorities as impacted by the project. For each major activity, the Concessionaire shall indicate the duration (in Days) required to perform the activity and the anticipated beginning and completion date of each activity. In addition, the Baseline Schedule shall indicate the sequence of performing each major activity and the logical dependencies and inter-relationships among the activities.
 - i) The Baseline Schedule shall include separate activities for major submittals proposed by the Concessionaire together with appropriate activities for the Department review.
 - j) With the exception of activities relating to Environmental Approvals by Governmental Authorities, procurement, fabrication or general project management activities, each activity depicting the Concessionaire's operations shall have duration of not more than 30 Days, and not less than one Day, except as otherwise agreed. All activities shown in the schedule, with the exception of the first and last activities, shall have a minimum of one predecessor and a minimum of one successor activity.
 - k) In all Contract Schedules, the Concessionaire will:
 - i. ensure that the actual number of activities in the schedule is sufficient to assure adequate planning of the Work and to permit monitoring and evaluation of progress and the analysis of time impacts
 - ii. design activities will identify Approved For Construction (AFC) packages
 - iii. show the order in which the Concessionaire proposes to carry out the Work with logical links between time-scaled Work activities
 - iv. use the Critical Path Method (CPM) to determine controlling operations
 - v. depict the sequence and interdependence of activities required for complete performance of the Work beginning with the date at Work Commencement Approval and concluding at Final Acceptance
 - vi. include the completion dates set forth in the ARCA

- vii. include phasing of the Work, subcontractor Work, procurement, fabrication, delivery, installation, testing of materials and equipment, commissioning of systems, and any long lead time orders for major or significant materials and equipment
 - viii. depict the required coordination with and Work to be performed by other contractors, Utility Owners, Governmental Authorities, engineers, architects, subcontractors, and suppliers
 - ix. identify approvals required from authorities and the dates by which such approvals are necessary
- l) For each occurrence of Major Maintenance or Project Enhancement Work during the operation period, the Concessionaire shall follow the principles above for the preparation and approval of new Baseline Schedules relating to the major maintenance or Project Enhancement Works and the subsequent progress monitoring and reporting.

1.4.2 Updating of the Contract Schedules

- a) The Initial Baseline Schedule will be the basis for the Monthly Progress Reports, until such time as the Proposed Baseline Schedule is approved by the Department. Thereafter the Baseline Schedule shall be the basis of the Monthly Progress Reports, unless it is revised significantly in scope or logic to become the Updated Baseline Schedule.
- b) In the event of a change order or delay event impacting the substantial completion date the Baseline Schedule will be revised and submitted to the Department for approval.
- c) The Monthly Progress Schedule which will show actual progress against the Baseline Schedule or Updated Baseline Schedule and the planned execution for the remainder of the Project. The Monthly Progress Schedule will be submitted to the Department each month.
- d) The last Monthly Progress Schedule submitted will be identified by the Concessionaire as the As-Built Schedule.
- e) The software for all schedules shall be Primavera Systems' Primavera Project Planner (P3) V 3.1. for the Work Period.

1.4.3 Time Impact Analysis for Proposed Time Extensions

- a) If Concessionaire claims that any event, including but not limited to a change in the Work, justifies an extension to the Contract Time(s), the Concessionaire shall receive from the Design-Builder a written Time Impact Analysis ("TIA") establishing the influence of the event on the Baseline Schedule. Each TIA shall include a Fragmentary Network, and for events that have yet to occur (such as proposed change orders), the Fragmentary Network shall demonstrate how Concessionaire proposes to incorporate such event into the Baseline Schedule. The TIA shall demonstrate:
 - i. the time impact based on the date the event occurred, or, in the instance of proposed change orders, the date such change order was given to Concessionaire
 - ii. the status of the Work at such point in time
 - iii. the time computation of all affected activities.
- b) The Concessionaire shall confirm the validity of the TIA and submit to the Department for approval.
- c) Upon approval by Department, the event shall be included in the next Baseline Schedule update.
- d) Activity delays shall not automatically mean that an extension of the contract time(s) is warranted or due Concessionaire. Concessionaire recognizes that certain events will not affect existing critical activities or cause non-critical activities to become critical thereby not causing any effect on the contract time.

- e) Two (2) copies of each TIA shall be submitted within the time period proposed by the Concessionaire in the written notice of claim pursuant to Section 13.01 of the ARCA.
- f) Approval or rejection of each TIA by the Department shall be made within 21 days after receipt of each TIA, unless subsequent meetings and negotiations are necessary. Upon approval, a copy of the TIA signed by the Department shall be returned to Concessionaire, and incorporated into the next Baseline Schedule update.
- g) The TIA related to a Change Order shall be incorporated into and attached to the applicable change order.

1.5 Standards and Reference Documents

1.5.1 General Requirements

- a) The standards, special provisions and reference documents applicable for the initial build out of the Works shall be those versions of the documents as specified in Attachment 1.5a. Where the Concessionaire's design requires design methods or construction procedures not covered by the attached list of standards the Concessionaire will obtain Department approval.
- b) Subject to the provisions of the ARCA Project Enhancements and maintenance work carried out during the operations period must comply with the Department's standards current at the time of the work.
- c) Concessionaire should use non-Department standards if Department standards do not exist. The Concessionaire is responsible for demonstrating that any non- Department standard used represents Good Industry Practice.
- d) The functional classifications, design speeds, traffic volumes, special load requirements design criteria and other interpretations of the Standards specifically required for the Works are presented in Attachment 1.5b.
- e) A schedule of Approved Design Exceptions and Design Waivers recorded at Financial Close are listed in Attachment 1.5c.

1.5.2 Interpretation of standards

- a) Department standards are interpreted for the contract using the following guiding principles:
 - i. Where Department standards define the role of the Department or Engineer, this will typically be the responsibility of the Concessionaire unless specifically defined otherwise.
 - ii. Where Department standards define procedures and conditions for payment between the Department and the concessionaire, these are typically not applicable.
 - iii. Specific amendments to the Standards are presented in the Department's Division 1 Amendment to Standard and Specifications table in Attachment 1.5d.

1.6 Right of Way

- a) The Concessionaire shall provide Right of Way (ROW) acquisition services for the Project. ROW acquisition services shall include title examinations, appraisal, appraisal review, negotiation, relocation assistance and advisory services, closings, and legal services. The Project Right of Way Acquisition Services and project ROW Acquisition items are set out in Attachment 1-6a ROW Responsibility Matrix. All appraisers and acquisition firms shall be selected from the Department's pre-approved list. The Department will retain authority for approving just compensation, relocation benefits, and settlements. The Department must issue a Notice to Commence Right of Way acquisition to the Concessionaire prior to any offers being made to acquire the property. The Department must also issue a Notice to Commence Construction to the Concessionaire once the property has been acquired and any relocations completed prior to commencing construction on the property.

- b) The Concessionaire shall carry out its responsibilities in accordance with the following requirements:
- i. The Concessionaire shall acquire property in accordance with all applicable federal and state laws and regulations, including but not limited to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the "Uniform Act), and titles 25.1 and 33.1 of the 1950 Code of Virginia, as amended. The acquisition of property shall follow the guidelines as established by the Department and other state and federal guidelines that are required and the Department's *Right of Way and Utilities Division Manuals, Vol. I and II*.
 - ii. The Concessionaire shall submit a project-specific ROW Acquisition Plan for the Department's review and approval.
 - iii. The Concessionaire shall submit, as part of the ROW Acquisition Plan, procedures for handling ROW acquisitions and relocations to the Department for review and approval prior to commencing right of way activities. These procedures must show the Concessionaire's methods, including the appropriate steps and workflow required for title examinations, appraisals, and review of appraisals, negotiations, acquisition, and relocation. The Department will approve the just compensation, relocation benefits, and administrative settlements.
 - iv. The Concessionaire shall have access to and use the Department's Right of Way and Utilities Management System ("RUMS") to manage and track the acquisition process. The Department's standard forms and documents, as found in RUMS, will be used to the extent possible. Any changes to the forms and documents must be approved by the Department. The Department will provide training in the use of RUMS and technical assistance will be provided by the Department.
 - v. The Concessionaire shall provide a current title examination (no older than 60 days) for each parcel at the time of the initial offer to the landowner. Each title examination report shall be prepared by a Department approved title company, in accordance with the Department's ROW Manual and shall include title insurance. Should the Concessionaire select a law firm to certify title examinations, the certifying attorney shall show evidence of professional liability insurance. The Department reserves the right to determine if the professional liability insurance coverage is sufficient. If any title examination report has an effective date that is older than 60 days, an update is required prior to making an initial offer to the landowner.
 - vi. The Concessionaire shall prepare appraisals in accordance with the Department's Appraisal Guidelines.
 - vii. The Concessionaire shall provide appraisal reviews complying with technical review guidelines of the Department's Appraisal Guidelines. The reviewer shall be approved by the Department and shall be on the Department's approved fee appraiser list. The Department shall review the Concessionaire's appraisal, waiver appraisal and appraisal review for each parcel, and approve the just compensation offer.
 - viii. The Concessionaire shall make direct payments of benefits to property owners for negotiated settlements, relocation benefits, and payments to be deposited with the court.
 - ix. Concessionaire shall prepare, obtain execution of, and record documents conveying title to such properties to the Commonwealth and deliver all executed and recorded general warranty deeds to the Department. For all property purchased in conjunction with the Project, title will be acquired in fee simple except that permanent easements may be acquired in lieu of fee simple interest for the construction and maintenance of items such as sound walls, retaining walls, storm drainage structures and earthen slopes. All property shall be conveyed to "Commonwealth of Virginia, Grantee" by a Department -approved general warranty deed, free and clear of all liens and

encumbrances except encumbrances expressly permitted by the Department in writing in advance. All easements, except for private utility company easements, shall be acquired in the name of "Commonwealth of Virginia, Grantee". Private utility company easements will be acquired in the name of each utility company, except when the use of eminent domain is necessary.

- x. The Concessionaire shall use its best efforts to settle claims with landowners amicably. The Concessionaire shall not request the filing of a certificate until the land owner has been given a minimum of 30 days to consider the offer or the land owner terminate the negotiations. If, despite the Concessionaire's best efforts, it is unable to reach a settlement with any landowners, as a last resort the Department will handle any necessary condemnation proceedings subject to the following. Prior to the Department filing a condemnation proceeding, the Concessionaire shall prepare or cause to be prepared all necessary paperwork and supporting documentation required for the proceeding and it shall deliver that documentation to the Department, including the Notice of Filing Certificate. The Department then will file the condemnation proceeding(s) and handle such proceeding(s) in accordance with Right of Way and Utilities Division Manuals, Vol. I and II. The Department's legal counsel will assign cases to counsel approved by the Office of the Attorney General, Commonwealth of Virginia, and review and approve their billings.
 - xi. The Concessionaire shall be responsible for all contacts with landowners for ROW or construction items.
 - xii. The Concessionaire shall use reasonable care in determining whether there is reason to believe that property to be acquired for rights of way may contain concealed or hidden wastes or other materials or hazards requiring remedial action or treatment. When there is reason to believe that such materials may be present, the Concessionaire shall take steps consistent with customary Department practices to investigate. The Department shall be notified of the presence of such materials before an offer is made to acquire the property.
 - xiii. During the acquisition process and for a period of three years after the Works phase of the Project, or until the Commonwealth has indefeasible title to the property, all Project documents and records not previously delivered to the Department, including but not limited to design and engineering costs, construction costs, costs of acquisition of rights of way, and all documents and records necessary to determine compliance with the laws relating to the acquisition of right of way and the costs of relocation of utilities, shall be maintained and made available by Concessionaire to the Department for inspection or audit.
- c) The Concessionaire shall be responsible, at its sole expense, for demolishing and disposing of all existing buildings from the ROW and Permanent Easements. All such work shall comply with these Technical Requirements.
 - d) The Concessionaire shall acquire permanent Right of Way for the Concessionaire's HOT/OC and associated easement to the HOT/OC as Commonwealth Right of Way.

1.6.1 Acquisition Schedules

- a) The permanent right of way to be acquired by the Concessionaire is defined in Attachment 1.6b (Right of Way Acquisition Schedule).
- b) The Permanent Easements (PE) and Utility Easements (UE) to be acquired by the Concessionaire are defined in Attachment 1.6c (Easement Acquisition Schedule).
- c) The Temporary Construction Easements (TCEs) necessary to perform the Work to be acquired by the Concessionaire are defined in Attachment 1.6c (Easement Acquisition Schedule).

1.6.2 Possible Reductions In Row Acquisition

- a) The ROW acquisition area required for the project may be reduced by the construction of additional structures, e.g. retaining walls, slope stabilization.
- b) A reduction in the ROW area will likely reduce the ROW acquisition cost, however there will be an offsetting increase in costs to design and construct the additional structures.
- c) These design and construction costs will be assessed against the ARCA ROW Allowance, subject to the following:
 - i. The estimated savings in ROW acquisition cost exceeds the estimated cost to design and construct the structure.
 - ii. The estimated ROW acquisition savings will be determined by the Concessionaire
 - iii. The Concessionaire will prepare an estimate to design and construct the structure which will be reviewed and approved by the Department. The estimate will include any schedule impacts.
 - iv. Following approval, the Department will issue a Department Change confirming that the estimated costs of the structure will be charged against the ARCA ROW Allowance.

1.7 Utilities

- a) The Concessionaire shall be responsible for coordination of the Project construction with all utilities that may be affected in accordance with the Utilities Plan. The Concessionaire shall develop and maintain a Utility Tracking Report as part of the Utilities Plan. The Concessionaire shall be responsible for coordinating the work of its subcontractors and the various utilities. The resolution of any conflicts between utilities and the construction of the Project shall be the responsibility of the Concessionaire.
- b) The Concessionaire shall be responsible for utility designations, utility locates (test holes), conflict evaluations, cost responsibility determinations, utility relocation designs, utility relocations and adjustments, utility reimbursement, replacement land rights acquisition and utility coordination required for the Project. Concessionaire is responsible for coordinating all necessary utility relocations and adjustments to occur in accordance with the accepted Baseline Schedule.
- c) Concessionaire is not responsible for the following activities:
 - i. installation of new utilities for other parties
 - ii. betterments to existing utilities
- d) The anticipated utility relocations are shown in the Utility Relocation Schedule, Attachment 1.7a.
- e) The Concessionaire shall submit a Utilities Plan for the Department to review and comment in accordance with Section 1.3.
- f) The Concessionaire shall initiate early coordination with all utilities located within the Project Right of Way, and shall jointly host with the Department a Utility Field Inspection with all the effected Utility Companies. The Concessionaire and the Department will review the Utility Relocation Plan and Estimate (P&E) prior to any work being done by a utility company. The authorization of the P&E by the Concessionaire will allow the utility companies to perform any relocation and (or) adjustments as necessary within the Project Right of Way.
- g) A Master Utility Agreement (MUA) similar to that utilized by the Department (provided for in the Department Utility Policy and Procedure Manual) will be used to establish the general framework for addressing the utility issues within the project affecting a Utility owner. The two party agreement between the Design Build contractor (Concessionaire) and the Utility company will set forth the terms and conditions under which the utility work will be performed,

and will adhere to the Department’s Utility Policy and Procedure Manual. As part of the MUA will be the statement (reference to the ARCA) that this is being performed as a Department project.

- h) The Department shall assist in negotiations with Utility owners as reasonably requested by the Concessionaire.
- i) The Concessionaire shall be responsible to ensure that utility service interruptions are minimized.
- j) The Concessionaire shall ensure that Utility Work is conducted in accordance with the relevant agreements and the Department’s land use permit.
- k) When the Concessionaire is responsible for performance of the construction of the Utility Work, the Concessionaire shall coordinate with the Utility owner to obtain temporary construction easements or agreements.
- l) The Concessionaire will ensure the utility company submits As-Built drawings upon completion of their relocation and (or) adjustments. The Department shall issue an As-Built permit to the utility companies within 21 days of receipt of As-Built drawings.
- m) The Concessionaire shall be responsible for ensuring the appropriate abandonment or removal of all abandoned utilities within the Project Right of Way.
- n) The Concessionaire shall fall under the Department’s waiver related to the tax effective recovery factor for all utility work.

1.8 Aesthetics

- a) Where existing structural elements have aesthetic treatments, the surface finish and color for sound walls, retaining walls, bridge parapets walls and bridge abutments are to be replaced with the architectural treatments defined in Table 1.8 (Aesthetic Surface Finishes). Where these structural elements have no treatments, elements shall receive a smooth concrete finish in accordance with the Road and Bridge Specifications or the Department may elect to apply the aesthetic treatments as set out in Table 1.8 as a Department Change.

Table 1.8: Aesthetic Surface Finishes		
Item	Surface Finish	Surface Color
Sound Walls – Precast Concrete - Roadway Side Surface	Vertically fluted ^{1,2}	Natural Concrete
Sound Walls – Precast Concrete – Landowner’s Side Surface	Fuzzy Raked	Natural Concrete
Sound Walls – Structure Mounted metal	N/A	Match Federal Standards 595B-36492 as close as reasonably possible
Sound Wall Posts	N/A	Concrete or galvanized steel for ground mounted walls and galvanized steel for structure mounted walls
MSE retaining walls - panels	Fractured Fin – standard Reinforced Earth Co.	Natural Concrete

Table 1.8: Aesthetic Surface Finishes		
Item	Surface Finish	Surface Color
RW Series retaining wall within 30 ft of pavement	See attached Rustication Treatment Details	Natural Concrete
CIP cantilever retaining walls	See attached Rustication Treatment Details	Natural Concrete
Soldier pile retaining walls – within 30ft of pavement	See attached Rustication Treatment Details	Natural Concrete
Drilled shaft retaining walls	See attached Rustication Treatment Details	Natural Concrete
Bridge Parapet walls	Department Standards	Natural Concrete
Bridge abutments and Piers	See attached Rustication Treatment Details	Natural Concrete

1. No absorptive finish is required on that portion of the base panels below ground and 6 inches (150 mm) above the groundline.

2. No absorptive finish is required where reflective panels meet the noise mitigation requirements.

- b) No anti-graffiti coating will be applied to any surface on the Project.
- c) Ground mounted and structure mounted sound walls shall be consistent in appearance and color with walls used at the Springfield Interchange Project.

1.9 Work Restrictions

1.9.1 Work Hours

- a) The Contractor is advised that its general operations may proceed seven days a week, twenty-four (24) hours a day throughout the Work Period except as may be modified in the following herein.

1.9.2 Temporary Roadway Closures

- a) Lane and Shoulder Closures - To facilitate construction and minimize inconvenience to the public, the Concessionaire is advised of the following closure limitations:

Table 1.9a: Roadway Lane and Shoulder Closures			
Roadway Section	Single-Lane Closures**	Multiple-Lane Closures	Complete Road Closure*
Interstates and Dulles Toll Road including interchanges and associated ramps	M, Tu, W, Th	M, Tu, W, Th	M, Tu, W, Th
	9:30 a.m. to 3:30 p.m.	11:00 p.m. to 5:00 a.m.	11:00 p.m. to 5:00 a.m.
	9:30 p.m. to 5:00 a.m.		F
	F only	F	11:00 p.m. to 7:00 a.m.
	9:30 a.m. to 12:00 noon	10:30 p.m. to 7:00 a.m.	Sa

Table 1.9a: Roadway Lane and Shoulder Closures			
Roadway Section	Single-Lane Closures**	Multiple-Lane Closures	Complete Road Closure*
	10:00 p.m. to 9:30 a.m. Sa 9:30 p.m. to 9:00 a.m. Su 9:30 p.m. to 5:00 a.m.	Sa 10:00 p.m. to 9:00 a.m. Su 10:00 p.m. to 5:00 a.m.	11:00 p.m. to 9:00 a.m. Su 10:00 p.m. to 5:00 a.m.
Major Arterials	M, Tu, W, Th, 9:00 a.m. to 4:00 p.m. 9:00 p.m. to 5:00 a.m. F only 9:00 a.m. to 12:00 noon 9:30 p.m. to 9:00 a.m. Sa 9:30 p.m. to 9:00 a.m. Su 9:30 p.m. to 5:00 a.m.	M, Tu, W, Th 10:00 p.m. to 5:00 a.m. F 10:30 p.m. to 7:00 a.m. Sa 10:00 p.m. to 9:00 a.m. Su 10:00 p.m. to 5:00 a.m.	M, Tu, W, Th 11:00 p.m. to 5:00 a.m. F 11:00 p.m. to 7:00 a.m. Sa 10:00 p.m. to 9:00 a.m. Su 10:00 p.m. to 5:00 a.m.
All Other Roadways	M, Tu, W, Th, 9:00 a.m. to 5:00 p.m. 9:00 p.m. to 5:00 a.m. F only 9:00 a.m. to 12:00 noon Sa 9:30 p.m. to 9:00 a.m. Su 9:30 p.m. to 5:00 a.m.	M, Tu, W, Th 10:00 p.m. to 5:00 a.m. F 9:00 a.m. to 12:00 noon 10:30 p.m. to 9:00 a.m. Sa 10:00 p.m. to 9:00 a.m. Su 10:00 p.m. to 5:00 a.m.	M, Tu, W, Th 10:00 p.m. to 5:00 a.m. F, 10:30 p.m. to 7:00 a.m. Sa 10:00 p.m. to 9:00 a.m. Su 10:00 p.m. to 5:00 a.m.

*Complete Road Closures: 30 minutes maximum or a time frame to be mutually determined between the Department and Concessionaire to facilitate the lifting and placing of bridge beams, demolition and removal of bridge elements and erection or removal of overhead sign panels and structures.

** Single lane closures are only permitted for multiple lane roadways.

Major arterials defined as Braddock Rd., RT 7, RT 123, RT 50, RT 236, RT 29, and Gallows Rd.

1.9.3 Lane Closure Types

- a) Type 1 – A lane closure resulting in a significant impact on traffic, such as stopping traffic completely, closing 2 or more lanes, closing an exit or entrance ramp at freeway interchanges or changing traffic patterns. This type of closure would require extensive media and stakeholders’ notification effort and coordination among various local and state agencies as identified in the Public Information Plan.
- b) Type 2 – A lane closure resulting in minor or no impact on the flow of traffic, such as closing one lane on a 4-lane roadway during off-peak traffic hours.
- c) Type 3 – A lane closure that would close a shoulder (right of left) on a roadway or ramp.

Table 1.9b: Roadway Lane and Shoulder Closures		
Type	Minimum Advance Notice (days)	Maximum Advance Notice (days)
1	10	21
2	5	14
3	3	14

- d) The Concessionaire’s working CPM schedule shall identify construction phases. The schedule will be reviewed in detail to assure that the scheduling meets the objectives for expediting the Project and minimizing traffic disruptions.
- e) Confirmation shall be made twenty-four (24) hours before any scheduled lane closure and shall include a written reiteration of the proposed tasks and a listing of materials, labor, and equipment to be utilized. Complete road closures require a seventy-two (72) hour advance confirmation for coordination. The Contractor is responsible for providing adequate advance notification via variable message and required static signing for lane closures in accordance with *MUTCD*. Once a closing is in place, work shall commence immediately and shall progress on a continuous basis to completion or to a designated time.
- f) Traffic back ups must dissipate prior to implementing successive closings.
- g) The Concessionaire’s three-week look ahead schedule shall identify the activities that require lane and roadway closures. The schedule will be reviewed in detail to assure that the scheduling meets the objectives for expediting the project and minimizing traffic disruptions.
- h) The maximum length of any lane closing; i.e., length from the first to last cones, shall be two miles and the minimum clear distance between two separate lane closings; i.e. from the last traffic cone of the first closing to the first cone of the second closing, in the same roadway, shall be two miles.
- i) Lane closures or work that restricts traffic flow will not be permitted on Saturdays, Sundays and holidays from noon the day before a holiday until noon the day after a holiday unless approved by the Engineer. When a holiday falls on a Friday, lane closures are not permitted from noon on Thursday to noon on Monday. When a holiday falls on Monday, lane closures are not permitted from noon on Friday to noon on Tuesday. Further, as the Thanksgiving Day holiday occurs on a Thursday, work will not be permitted from noon on Wednesday until 9:30 am on the following Monday.
- j) For the purposes herein the term “holiday” shall apply to New Year’s Day, Martin Luther King Jr. Day, President’s Day, Easter, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran’s Day, Thanksgiving Day and Christmas Day. The Department may adjust lane closure times to accommodate shopping seasons associated with the aforementioned Holidays.
- k) Extension of a lane closure time, except as approved by the Department, is not acceptable and bears a liquidated damage charge. The liquidated damage charges for failure to restore all lanes to traffic by the designated times are indicated in Table 1.9c and shall be assessed starting from the end of the approved time. All liquidated damage charges will be capped at \$200,000 per lane closure, per occurrence. Restoration of traffic shall mean the completion of all construction work, the removal of all traffic control devices and signs, and removal of all workers, materials and equipment from the roadway. The charges apply regardless of the day or date. In cases where special dispensation has been given to restrict lanes beyond the times specified in Table 1.9a, the charges apply from the end of the approved time.
- l) Liquidated damage charges for extension of lane closure time will be managed in the following fashion. If a liquidated damage charge is incurred, the Department will advise the

Concessionaire of the liquidated damage charge verbally within 24 hours and in writing within 48 hours of the occurrence, otherwise the liquidated damage charge will not be applied. The liquidated damage charge will then be withheld from future progress estimates. If there are no other liquidated damage charges incurred in a three month period following the date that a particular liquidated damage charge was incurred, then the particular liquidated damage charge will be waived, and the payment withholding rescinded.

TABLE 1.9c OF LIQUIDATED DAMAGES FOR LANE CLOSURES			
Elapsed Time (min)	Liquidated damage \$ per minute		
	I-495, I-66, I-95, I-395, DTR, DAAR and all ramps	Major Arterials*	All other roads
1-5, or any portion thereof	\$1,000	\$1,000	\$0
Every additional minute or any portion thereof	\$2,500 (in addition to the original 5 minutes)	\$1,500 (in addition to the original 5 minutes)	\$0

*Major arterials defined as Braddock Rd., RT 7, RT 123, RT 50, RT 236, RT 29, and Gallows Rd.

- m) Where the Contractor causes the assessment of the liquidated damages for failure to restore traffic lanes, the Contractor will not be allowed further lane closures until the reasons for the assessment are evaluated and the Contractor can provide assurance that the causes have been corrected.
- n) The Department reserves the right to monitor traffic conditions impacted by the work and to make additional restrictions as may be necessary; i.e., terminate a lane closure early. Additional restrictions for other holidays or special local events may be necessary.

1.9.4 Concessionaire Proposed Closures

- a) At the Department’s sole discretion and approval, Concessionaire may submit a request to work outside the stated lane hours by providing an analysis demonstrating the viability of the request. Closures of longer durations than listed in Table 1.9a may require a review of plans, implementation of detours and public outreach.

1.9.5 Night Work

- a) In areas where work is to be performed during the hours of dusk or darkness, the Contractor shall furnish, place and maintain lighting facilities capable of providing light of sufficient intensity (five foot-candles minimum) to facilitate good workmanship and proper inspection at all times. The lights shall be arranged so as not to interfere with or impede traffic approaching the work site(s) from either direction or produce undue glare to property owners.
- b) Lighting of work site(s) may be accomplished by the use of any combination of portable floodlights, standard equipment lights, existing street lights, temporary street lights, etc. that will provide the proper illumination.
- c) The Contractor shall furnish and place warning signs to alert approaching motorists of lighted construction area(s). These warning signs shall be 4 ft (1200) mm x 4 ft (1200) mm. The Contractor's pickups and automobiles used on the project shall be provided with amber flashing lights. The amber flashing lights shall be in operation while in the work area. The Contractor's equipment shall be provided with a minimum of 3 square feet of reflective sheeting that is visible to approaching motorists. The Contractor shall provide his personnel with reflective vests. These vests shall be worn at all times while the workers are within the work area. The Contractor shall provide a light meter to demonstrate that the minimum light intensity is being maintained.

- d) The Contractor shall provide sufficient fuel, spare lamps, generator, etc. to maintain the lighting of the Work Site. The Contractor shall utilize padding, shielding or locate mechanical and electrical equipment to minimize noise generated by lighting operations as directed by the Department. Noise generated by portable generators shall comply with all applicable Federal, State and local environmental regulations.
- e) The Contractor will be required to provide a uniformed, off-duty law enforcement officer with a marked law enforcement vehicle equipped with a blue flashing light for all nighttime work that is performed within the travel lanes.

1.10 Maintenance of Traffic

1.10.1 General Requirements

- a) Concessionaire shall comply with pertinent requirements for maintenance of traffic for the Work, and Project Enhancement Work. Concessionaire is responsible for overall road safety for work zones. Concessionaire shall appoint a single point of response to address Maintenance of Traffic (MOT) and safety requirements for each work zone.

1.10.2 Maintenance of Traffic (MOT) During Construction

- a) The Concessionaire will conduct all work necessary to provide safe and efficient MOT during construction, including provisions for the movement of people, goods and services through and around the project while minimizing impacts to pedestrians, local residents, business and commuters.
- b) The construction activities will be performed in accordance with Section 1.9 Working Hours.
- c) The Concessionaire will develop a MOT Plan in accordance with the requirements of Section 1.3.
- d) The Concessionaire will maintain traffic consistent with the MOT Plan.
- e) Relevant provisions from Department Instructional and Information Memoranda IIM-LD-241 (Work Zone Safety and Mobility) And TE 350 on Work Zone Speed Analysis that are applicable to a design-build project and are consistent with FHWA's Final Rule on Work Zone Safety and Mobility will be adopted for MOT on the Project.
- f) The Concessionaire will develop Traffic Control Plans (TCP) for each stage of construction that shows the Concessionaire's proposed construction staging and proposed traffic control devices consistent with the MOT Plan.
- g) Assessment of the work zone traffic impact using an operational-level traffic analysis software simulation program will be used on a limited basis and only for sustained work zone impacts at major interchanges or traffic switches or detours.
- h) The TCPs shall include the following elements:
 - i. a detailed diagram which shows the location of traffic control devices and temporary signal timing
 - ii. an access maintenance plan for all properties requiring access during construction.
 - iii. number of lanes to be provided
 - iv. maintenance and control of pedestrian and bicycle traffic.

1.11 Reporting

- a) The Concessionaire shall prepare and provide regular reports to the Department during the Works Phase and the Operations Phase. All reports prepared by Concessionaire shall include, at a minimum, those items shown below in a format mutually agreed with the Department and at the minimum shall be sufficient to allow the Department to meet its federal and state regulatory reporting responsibilities.

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- b) During the Works Phase of the Project, the Concessionaire's weekly Works report shall include the following:
- i. specific construction schedule activities including location (for the week concluding and the upcoming week)
 - ii. rolling 3 week forward-looking inspection notice, which shall include the fabrication schedule and planned construction activities
 - iii. MOT weekly update, regarding any scheduled lane closures and identification of work areas for the ensuing two weeks
- c) During the Works Phase of the Project, the Concessionaire's monthly Works report shall include the following:
- i. document control certification sheet (verification that all field documentation is being maintained)
 - ii. specific construction activities and deliverables occurring during the previous month (reporting period)
 - iii. specific construction activities and deliverables planned for the next 2 reporting periods
 - iv. identification of activities requiring Department/FHWA input or assistance
 - v. action items/outstanding issues
 - vi. a WBS level 1 or level 2 design and construction schedule
 - vii. project cost summary
 - viii. quality management reporting, as defined within the Concessionaire's Quality Management System Plan, including QC Inspection Reports and Daily Inspection Reports
 - ix. Nonconformance reports
 - x. Right of Way acquisition activities
 - xi. DBE/SWaM quarterly usage
 - xii. safety activities
 - xiii. digital photographs of the progress of the Project
- d) During the Operations phase, the Concessionaire's quarterly Maintenance and Operations report shall be mutually agreed and may include the following on an exception basis:
- i. planning and implementation of Operations Activities, including work plans for the future periods
 - ii. traffic issues
 - iii. customer management and marketing
 - iv. roadway operations
 - v. incident response
 - vi. routine maintenance activities
 - vii. customer service log, detailing complaints or requests, and their disposition
 - viii. document that all required O&M inspections have been completed
 - ix. Long term participation SWaM goal
 - x. quality management activities
 - xi. performance timeliness

- xii. Department compliance with requirements as defined in the ARCA
- e) During the Operations Phase, the Concessionaire's annual report shall include the following:
 - i. Summary of quarterly issues and trends as required for FHWA Certification, Shadow Tolling verification, or as mutually agreed.
 - ii. Annual projects budgets as required in the ARCA.
- f) Concessionaire Management Plan shall describe the proposed formats, means of distribution and recipients of the reports.
- g) Concessionaire shall maintain at all time at Concessionaire's office, at a minimum, one hard copy complete set of all reports shown above for the previous six months only. All reports shall be available to the Department for inspection and audit. Additional reports may be required as future needs dictate, and reports listed above may be deleted by mutual consent of the parties.

1.12 Third Parties and permitting

- a) The Department and the Concessionaire will mutually coordinate in their respective dealings with Government Authorities and other entities having interests in the Project. Some specific obligations and requirements include:
 - i. Washington Metropolitan Area Transit Authority (WMATA): Construction of the HOT lanes Project is located about and adjacent to WMATA's right of Way. Concessionaire will comply with WMATA's Manual of Adjacent Construction Management Manual or equivalent requirements. The Concessionaire will coordinate with(WMATA for the design and construction efforts at the crossings at I-66.
 - ii. Norfolk Southern Railroad Company; Phase VIII involves construction about and adjacent to Norfolk Southern Railroad's railroad tracks. Concessionaire shall obtain the special use permit required for this work and comply with the conditions thereof. The Department will assist the Concessionaire in obtaining the permit.
 - iii. Dulles Rail Extension; Dulles Rail Partners is constructing an extension of the WMATA system across the beltway north of Chain Bridge Road. The Concessionaire will provide access for Dulles Rail to construct its project facilities in the vicinity of the beltway provided that such access does not impact the completion date of the project.
 - iv. Metropolitan Washington Airports Authority (MWAA); The Department will grant the Concessionaire to the extent possible the rights available to the Department as defined in Article 11, Section 11.01 (Coordination regarding certain transportation facilities) of the Dulles Toll Road Permit and Operating Agreement, dated December 29, 2006 between the Department and MWAA; including the right to access the land.
 - v. Fairfax County Park Authority (FCPA); The Department agrees to execute its rights under the permit issued to FCPA for the constructing and maintaining the portion of the Cross County Trail under Rte. 236, Little River Turnpike. It is understood that this permit provided the following protections for the Department:
 - 1. The occupancy of the trail within the Department right of way was not guaranteed and can be terminated without cause by the Department at any time,
 - 2. Any costs associated with the relocation, removal or any other impacts to the trail shall be the sole responsibility of FCPA, and
 - 3. Upon written notice from the Department, FCPA agrees to abandon or relocate it's occupancy within the right of way.
 - vi. Northern Virginia Regional Park Authority (NVRPA); the Concessionaire will liaise with the NVRPA when carrying out Works that impact the W&OD Trail, in accordance with the FEIS commitments.

- b) The Department will make reasonable efforts to assist the Concessionaire in the timely procurement of a blanket waiver of Fairfax County's Noise Ordinance. Concessionaire will adhere to requirements of the noise waiver in planning and performing any construction.

1.13 Emergency Services

1.13.1 Liaison

- a) The Concessionaire will mutually agree with the Department requirements for participation in industry and statutory initiatives.

1.13.2 Emergencies and Extraordinary Circumstances

- a) The Concessionaire response to emergencies and extraordinary circumstances as part of the HOT Lanes Operations will be in accordance with the ARCA and shall ensure that:
- i. Safety of motorists, pedestrians and workforce personnel shall be the primary objective for all decisions and actions
 - ii. Clearance of a travel lane for emergency response vehicles shall be by the most expedient route whether General Purpose or HOT Lanes. In such circumstances, the decision of the Department responsible party or emergency services in charge shall govern, as allowed for under the ARCA.
 - iii. Military vehicles acting in an emergency response capacity or in defense of the sovereign homeland of the United States of America shall be given free and unrestricted access to the HOT Lanes.
 - iv. The U.S. Secret Service (USSS) in coordination with Virginia State Police (VSP) determines movements of the President of the United States (POTUS). Should either of these entities determine that POTUS movement on the HOT Lanes is required the Concessionaire shall cooperate and comply fully with USSS and VSP instructions with respect to lane closures and traffic management.
 - v. The Department reserves the right, by direction of the NOVA District Administrator or the Northern Region Operations (NRO) Director, to assume and exercise control of the HOT Lanes in part and/or in their entirety, including all applicable systems and field devices via available interfaces, as allowed for in the ARCA.
 - vi. Concessionaire will as needed participate in Emergency exercises held by Federal, State, and Local authorities.
- b) During special events that have significant impact on traffic flow, Concessionaire shall designate a responsible party in charge to work with the Department NRO Special Events and Incident Management Coordinator to develop traffic management plans for the event.

1.14 Safety

- a) The Department and the Concessionaire recognize that in every circumstance, activity and decision related to this project, safety of the public, Department personnel and Concessionaire and Contractor personnel is of first concern. Ensuring and maintaining safety on the general purpose lanes, in the construction zone, and on the completed HOT lanes shall supersede any and all other objectives for both the Department and the Concessionaire.
- b) The Concessionaire shall designate a full-time project safety officer for the construction period as well as for operation of the completed HOT lanes. The Safety Officer will ensure that nominated staff can be contacted by the Department and emergency services at all times.

2 Public Information and Communications

2.1 Public Information

- a) The Concessionaire is to develop the required process and procedures for media relations and public information to be consistent with the ARCA.

2.1.1 Interface and Liaison with the Department

- a) Management protocols will be developed between the Concessionaire's Project Communication team and Department Public Affairs. These protocols will detail:
 - i. A regime of regular reporting to the Department on marketing and communication activities, current and outstanding community issues and recent media activity
 - ii. Media protocols, providing clarity of responsibility in relation to media comment on particular aspects of the Project
 - iii. Stakeholder relations protocols, assigning responsibility for briefing and information to stakeholders on Project progress and milestones
 - iv. Requirements in relation to the Department's review and comment on Project marketing, communication and public outreach material
 - v. Processes for managing communication surrounding emergency management and recovery operations
- b) A representative of the Department will be invited to attend all meetings related to the Project to which community groups have been invited.
- c) Any meetings held, and public interface will be in accordance with the Department's Policy Manual for Public Participation in Transportation Projects, updated September 2004. The concessionaire is responsible for ensuring that the opportunity for public involvement is provided in accordance with this document. The term "public involvement" is meant to be all-encompassing including those instances where a willingness notice is justified.
- d) The Concessionaire will collaborate with the Department in the development of all communications and marketing strategies to ensure those strategies are consistent with both partners' values, needs, and goals. The Concessionaire will provide the Department with advance copies of communications materials for their review and comment prior to dissemination.
- e) The Department maintains the right to review, approve or veto any communications delivered under the VDOT logo.

2.1.2 Project Communication Team

- a) The Concessionaire will establish a Project communication office through which all communication and public outreach activities on the I-495 Capital Beltway HOT Lanes Project will be coordinated.
- b) The Project communication office will include:
 - i. A Public Affairs Manager, and adequate support staff and/or consultants, who will have responsibility for coordination of the delivery of the I-495 Capital Beltway HOT lane Communication, Marketing and Public Outreach Plan across all Project phases. The Public Affairs Manager will manage the relationship with the Department's Public Affairs and reporting on all communication and outreach activity
 - ii. A Public Information Manager and adequate support staff and/or consultants, responsible for community outreach and information activities during the design-build phase. The Public Information Manager will report to the D-B Contractor's functional management but will operate as a member of the Project communication team.

- iii. The Project communication team will develop and agree upon team protocols for communication between team members during the design-build phase, incorporating measures related to notification and approval timeframes, media interface and preparation of project communication materials.

2.1.3 Design Build - Public Information and Involvement

- a) The Concessionaire will maintain an open dialogue with the communities immediately surrounding the I-495 Capital Beltway HOT Lanes Project with the objective of building a long-term relationship based on trust and respect. The Concessionaire will design and manage construction of the Project with a view to minimizing the impacts on surrounding communities.
- b) The Concessionaire will prepare and implement a Public Information Plan (PIP) for the design and construction period in accordance with Section 1.3.

2.1.4 Pre-Operations and Operations – Public Education and Awareness

- a) The Concessionaire will ensure that motorists are educated about the features and benefits of the I-495 Capital Beltway HOT lanes, so that they can make an informed choice about their use of the HOT lanes once they are open to traffic.
- b) The Concessionaire will develop a Public Education and Awareness Program, to fit within the context of the broader Communication, Public Outreach and Community Education Plan for the Capital Beltway HOT lanes. It will address:
 - i. Education about Dynamic Pricing
 - ii. Information on requirements to use the HOT lanes, including HOV eligibility and transponder requirements
 - iii. Plans for the opening of the Beltway HOT lanes to traffic and communications that will facilitate smooth ongoing operations
 - iv. Interface with E-Z Pass marketing and communications, to facilitate distribution of transponders to motorists who intend to use the HOT lanes
 - v. Education about Driver Information Systems in use on the HOT lanes, so motorists understand on-road sources of information that will facilitate choice
 - vi. Provision of information to motorists and stakeholders to facilitate the MOT during ongoing maintenance activities. This will include:
 - a. Packaging of all MOT information, such as anticipated delays and lane closures, for provision to the Project Communication Team on a regular basis, to facilitate communication to the media, stakeholders and the broader community
 - b. Communication with direct impact area property owners
 - vii. Communication with elected officials and other key stakeholders, as needed based on the intensity of maintenance activities
 - viii. Coordination with local agencies
 - ix. Notification program to inform motorists and the broader community about expected traffic changes/delays

2.2 Media Relations

2.2.1 Media Outreach

- a) The Concessionaire will act in the best interests of the I-495 Capital Beltway HOT Lanes Project and its customers in building and maintaining relationships with the media. The project team will put processes in place to ensure close coordination with the Department on media outreach

activities, issues and responses and promote consistency with the Communications, Public Outreach and Community Education Plan.

- b) The Concessionaire will:
- i. Develop and provide to the Department for review and comment a set of media protocols governing responsibilities and reporting in relation to contact with the media, including guidelines for information sharing, policies to promote consistent messages, and procedures specific to managing emergencies and incidents.
 - ii. Develop and provide to the Department for review and comment a set of media protocols within the Project team
 - iii. Proactively build and maintain relationships with local media
 - iv. Provide timely response to media inquiries and keep the Department public affairs informed of media inquiries regarding the project and the nature of responses and documented as mutually agreed.
 - v. Provide relevant Project information to the media in a timely fashion
 - vi. Monitor all media coverage of the I-495 Capital Beltway HOT lanes Project
 - vii. Provide copies of all press releases or other media materials, to the Department in advance of distribution.

2.3 Project Marketing

2.3.1 Project Branding

- a) All public communication on the Project will be undertaken within the framework of a uniform Project 'brand' to ensure consistency of the marketing and communication across all Project phases.

2.3.2 Market Research and Analysis

- a) Communication, marketing and public outreach activities will be designed to respond to the issues, attitudes and attributes of the communities and market segments relevant to the Project.
- b) The Concessionaire will:
- i. conduct market research as required to guide marketing and communication activities
 - ii. Establish Project communication benchmarks and measure and report on community awareness, attitudes and satisfaction towards the I-495 Capital Beltway HOT Lanes Project

2.4 Communities and Public Outreach

2.4.1 Integrated Communication, Public Outreach and Community Education Plan

- a) The Concessionaire will deliver an integrated Communication, Public Outreach and Community Education Plan that:
- i. Provides an effective framework for communication between the Concessionaire and Stakeholders.
 - ii. Effectively engages the community in the design, construction and operation of the Project to minimize negative impacts, and maximize positive outcomes.
 - iii. Builds a strong and enduring relationship with stakeholders and the community within the I-495 Capital Beltway HOT lanes catchments over the life of the Project.
 - iv. Identify and manage risks associated with the Project.

- v. Develops a strong and enduring brand relationship between the community, I-495 Capital Beltway drivers and the owners and operators of the Project.
 - vi. Maximizes public awareness of features and benefits of the I-495 Capital Beltway HOT Lanes.
 - vii. Ensures the public understands how best to use the HOT lanes, and the requirements for travel on the system including dynamic pricing and paying tolls, obtaining and using transponders and user eligibility requirements
- b) The Communication, Public Outreach and Community Education Plan consistent with the Department's goals for the project, will be presented to the Department for review and comment and will form the basis for all communication activities during the design and construction of the I-495 Capital Beltway HOT lanes, as well as the pre-operational and operational period.
 - c) The plan will provide a detailed outline of communication tools and strategies to be employed during each phase of the Project development, delivery and operation, including the matters outlined in the sections below.
 - d) The plan will include the development of a crisis communications plan and procedures, addressing coordination with the Department and responsiveness to the media.

2.4.2 Stakeholder Outreach and Information

- a) The Concessionaire will develop, deliver and operate the I-495 Capital Beltway HOT lanes in a manner consistent with building and maintaining effective working relationships with all stakeholders in the Project's success.
- b) The Concessionaire will:
 - i. Develop and maintain a comprehensive stakeholder database to track and managed stakeholder communication
 - ii. Develop and maintain a Project website
 - iii. The Concessionaire will provide website copy to the Department for review and input prior to posting. The website will at a minimum contain a graphical Project overview, contact information, plan of work for the coming month, overall Project schedule, a frequently asked questions area and updated Project photos. The Website shall be updated as necessary throughout the duration of the Project.
 - iv. The Concessionaire shall be responsible for providing a point of contact and phone number to the Public to address questions and concerns during the Project.
 - v. Develop a proactive program of stakeholder engagement to brief local stakeholders on the Project's progress, features and benefits
 - vi. Where possible, afford stakeholders the opportunity to provide input to project planning and development
 - vii. Develop tailored marketing and communication material for relevant stakeholder groups
 - viii. Establish ongoing mechanisms for stakeholder information and input during the Project's operational phase, including communications surrounding enforcement technologies and strategies.
 - ix. Establish partnerships with local groups and organizations where there is mutual benefit in supporting the Route 495 HOT lanes Project.

3 Design and Construction Requirements

3.1 General

- a) All Design and Construction work shall comply with the relevant Federal, State, Municipality, and jurisdictional agency requirements as listed in the Attachment 1.5a unless provided for elsewhere in the ARCA or Technical Requirements.
- b) The Work will be designed, constructed, and the HOT lanes operated and maintained using the design criteria and traffic volumes defined in Attachment 1.5b (Design Criteria)
- c) Where the Work will be performed and does not meet minimum AASHTO standards and specifications, for one of the 14 controlling criteria (see LD-440), the Concessionaire will submit a design exception to the Department for FHWA approval.
- d) Where the Work will be performed and does not meet the Department's minimum standards and specifications, for one of the 14 controlling criteria (see LD-440), the Concessionaire will submit a design waiver (using LD-440 format) to the Department for approval.
- e) Record of design exceptions from FHWA and design waivers from the Department are listed in Attachment 1.5c (Schedule of Approved Design Exceptions and Design Waivers).
- f) The Department is not responsible for obtaining approval for design exceptions on behalf of the Concessionaire. The Department's concurrence to request a design exception does not guarantee FHWA approval.
- g) The Department will make a reasonable effort to assist the Concessionaire in obtaining timely approval or otherwise for design exceptions/waivers submitted to the Department /FHWA.
- h) The Concessionaire will take efforts to ensure that the condition of existing buildings, structures, roadways, lighting and signal equipment or other property that is to remain is not adversely affected by the performance of the construction activities and the operations activities.
- i) The Concessionaire will perform appropriate property pre-condition surveys and associated monitoring as necessary.
- j) Should the final design require widening or major rehabilitation of an existing bridge (excluding Bridge B-612) then the bridge will be brought up to current design standards provided that it is economically feasible. Economic feasibility involves consideration of service life costs and initial construction costs.
- k) The Work does not include upgrading of any existing highway facilities indicated to remain in place in the Project Scope Document (Exhibit U)
- l) The Work excludes improvements to existing bike and pedestrian paths unless funded through the Project Enhancement Account. The Project Enhancement Account will be used to implement the improvements as defined in Attachment 3.1A, column F "FCDOT Staff Recommendation" as well as the rehabilitation of bridge B602 if required.
- m) Phase VIII deferred items, as defined in Attachment 3.1B will be a Department Change.

3.2 Environmental

3.2.1 Environmental Documentation

- a) The Concessionaire will comply with the applicable environmental requirements set forth in the Final Environmental Impact Statement, Record of Decision and Environmental Re-Evaluation for the Work along the I-495 Capital Beltway for the works between Georgetown Pike and Hemming

Avenue and the Final Environmental Assessment and Finding of No Significant Impact for the work at the Springfield Interchange Phase VIII (see Table 3.2).

- b) The Concessionaire will ensure that the relevant commitments made in the NEPA documentation referenced in Table 3.2 are implemented at the appropriate phase of project development.

Table 3.2 - NEPA Documentation	
Document	Date
Capital Beltway Final Environmental Impact Statement (FEIS)	April 18, 2006
Capital Beltway Record of Decision (ROD)	June 29, 2006
Capital Beltway Environmental Re-Evaluation	May 9, 2007
Springfield Interchange Final Environmental Assessment (FEA)/Finding of No Significant Impact	September 24, 1994
Springfield Interchange Environmental Assessment Re-Evaluation	October 27, 1997

- c) If the Department or the Concessionaire become aware of new information that may have a bearing on environmental impacts, then consultation is needed with FHWA to determine the need for an environmental summary
- d) If the Concessionaire proposes a change in project scope and/or footprint (that is acceptable to the Department & FHWA) that constitutes a change relative to the existing NEPA Documents, the Concessionaire is responsible for developing an Environmental Summary with technical studies/analyses as required. The Department will coordinate the environmental summary with FHWA.
- e) If the Department proposes a change in Project scope and/or footprint (that is acceptable to the Concessionaire in accordance with the ARCA) that constitutes a change relative to the existing NEPA Documents, the Department is responsible for developing an Environmental Summary. The Concessionaire may assist the Department by performing the technical studies/analysis as required. The Department will coordinate the environmental summary with FHWA.
- f) If the proposed change, by either the Concessionaire or the Department, results in FHWA determining that a re-evaluation of the final EIS or EA or a supplemental EIS (SEIS) is required, the Department is responsible for providing all necessary document development. The Concessionaire may be required to support the Department with their effort to produce the required documentation.
- g) The Department will make reasonable efforts to assist the Concessionaire in the timely procurement of a blanket waiver of Fairfax County Noise Ordinance. Concessionaire will adhere to requirements of the noise waiver in planning and performing any construction.

3.2.2 Water Quality Permits

- a) The Concessionaire is responsible for any determinations, delineations, coordination, applications, acquisitions, and administration of required state and federal water quality permits and permit modifications. The Concessionaire will be responsible for compliance with pre-construction, construction-related, and post-construction permit conditions. Any compensation required for impacts to streams and wetlands are also the responsibility of the Concessionaire. Any fines associated with water quality permit or regulatory violations are the responsibility of the Concessionaire.
- b) The Concessionaire remains responsible for obtaining any new state and/or federal water quality permits (or modifying existing permits) required by changes in design. The Concessionaire will be listed as the Permittee in all cases.

- c) The following water quality permits, which form the Joint Permit Application, are current prior to execution of the ARCA.
 - i. The U.S. Army Corps of Engineers (COE) Individual Permit, authorized under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act (date).
 - ii. The Individual Virginia Water Protection Permit obtained from the Virginia Department of Environmental Quality (DEQ) providing Section 401 certification of the Clean Water Act (date).
 - iii. The Subaqueous Bed Permit obtained from the Virginia Marine Resources Commission (VMRC) for stream impacts associated with the Accotink Creek/Little River Turnpike area pursuant to Code of Virginia Title 28.2, Chapters 12, 13 and 14 (date).
- d) The Concessionaire will obtain a Virginia Stormwater Management Program (VSMP) Permit from the Virginia Department of Conservation and Recreation (DCR) prior to starting construction work.
- e) The Concessionaire is responsible for any additional permits, modifications to existing permits, or additional stream/wetland compensation due to Project scope or work operations changes made at their discretion. Department initiated changes or modifications requiring additional permits, modifications to existing permits, or additional stream/wetland compensation during the work period shall be the Department's responsibility.

3.2.3 Hazardous Materials Investigations

- a) The Concessionaire will perform environmental site assessments on properties to be acquired for Project Right of Way. The environmental site assessments will be in accordance with the American Society for Testing and Materials (ASTM) Method E1528-06 "Transaction Screen Process" (TSP) and/or ASTM Method E-1527-05 "Phase I Environmental Site Assessment" (Phase I ESA). ASTM Method E1528-06 will be carried out - at a minimum - on all properties and these studies will serve as a screening tool to determine the appropriateness of conducting Phase I ESAs of individual properties under ASTM E-1527-05. The Concessionaire will conduct Phase I ESAs on those properties determined to require such study based on the findings of the TSP(s) or other sources of knowledge. The Concessionaire will submit copies of the TSP and Phase I ESA reports to the Department for approval, along with detailed recommendations for further study or site evaluation. With approval from the Department, the Concessionaire will cause further studies and evaluations to be performed and submit a summary of findings to the department.
- b) If the properties proposed for acquisition are determined to have environmental impairments from hazardous substances, the Concessionaire shall prepare a plan for containment/management/mitigation/remediation (CMMR) of hazardous substances. The plan will be submitted to the Department for approval. If the CMMR activities are on existing Department right-of-way, the Concessionaire will also provide a cost estimate for implementing CMMR activities, to the Department for approval. The Concessionaire will implement all approved CMMR activities in accordance with applicable law, regulation, permits, ordinances or court ordered actions, and the ARCA.
- c) Following the acquisition and vacation of properties, the Concessionaire will perform asbestos inspections and if necessary, will perform asbestos abatement in accordance with the Department's asbestos inspection procedures. The Concessionaire will perform abatement of asbestos-containing materials and asbestos project monitoring in accordance with all applicable laws and regulations, as well as the applicable Standards referenced in Attachment 1.5a
- d) The Concessionaire will retain copies of all property studies, CMMR documents and asbestos inspection/abatement/abatement monitoring records as required by applicable Standards referenced in Attachment 1.5a.

3.2.4 Environmental Monitoring

- a) The Concessionaire is responsible for daily monitoring of compliance during construction Work Period with all applicable environmental laws and regulations. Should any non-compliant item(s) be identified by the Concessionaire, they will take immediate and continuous corrective action to bring the item(s) back into compliance.
- b) The Department will perform Quality Assurance environmental monitoring on a periodic basis. The Department's Environmental Compliance Report will be provided to the Department's Project Manager for appropriate action as governed by the ARCA.

3.2.5 Environmental Management Plan

The Concessionaire will develop an Environmental Management Plan in accordance with the requirements of Section 1.3 to address the environmental requirements.

3.3 Geotechnical

3.3.1 Geotechnical design

- a) The soil design parameters to be used for sound barrier and retaining walls are provided in Attachment 1.5b
- b) The Concessionaire shall collect appropriate data for geotechnical evaluation of embankments, soil and rock cuts, culverts, bridge and wall structures, sound walls, storm water management facilities, minor structures including drainage pipes, and any other earth supported structures or elements of highway design and construction. The Concessionaire will be responsible for obtaining any permit(s) required for any borings needed in performance of the Concessionaire's geotechnical investigation for this Project. The Department agrees that all permit fees are waived for project related geotechnical investigations. The Concessionaire shall complete laboratory tests in accordance with pertinent ASTM or AASHTO standards and analyze the data to provide design and construction requirements. Soils and materials tests shall be performed by a laboratory accredited by AASHTO for each test it conducts for the Project, unless otherwise approved by the Department.
- c) The Concessionaire shall provide all records of subsurface explorations and describe the soils encountered and their depth limits in accordance with the requirements outlined in Chapter 3 of the Department MOI's for Materials Division and the investigation in accordance with an approved exploratory boring plan. The Concessionaire shall provide electronic copies of all subsurface explorations in accordance with the boring log template available on the website address included in Chapter 3 of the Department MOI's for Materials Division. The electronic files shall be provided by a certified professional geologist or a suitably qualified registered professional engineer in the Commonwealth of Virginia, in gINT® software. Upon request, the Department will provide its gINT and ACCESS file structures for the Geotechnical Database Management System ("GDBMS").
- d) The Concessionaire shall incorporate reliability assessments in conjunction with standard analysis methods, to verify the acceptable settlement, capacity or factor of safety of foundation, wall, embankment, or slope design (e.g. refer to Duncan, J.M. (April 2000) *Factors Of Safety And Reliability In Geotechnical Engineering*, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Discussions and Closure August 2001). A suitable design will provide a probability of success equal to or greater than 99 percent. The Concessionaire may propose to identify specific, non-critical features, and alternative methods for evaluating variability of subsurface conditions, reliability and minimum factors of safety, prior to submission of its design calculations and drawings. The Department may, in its sole discretion, accept or reject such proposed methods.
- e) The Concessionaire shall provide geotechnical design and construction memoranda that summarize pertinent subsurface investigations, test, and engineering evaluations. Technical specifications for construction methods that are not adequately addressed in the Standard

Specifications shall be provided by the Concessionaire. The Concessionaire shall review the construction documents to assure that they have appropriately incorporated the geotechnical components. The QA/QC documents shall record how geotechnical recommendations or requirements are addressed in the construction implementation.

- f) The Concessionaire shall minimize differential settlement of the approach to the bridge for new construction and when applicable provide construction recommendations to address soil-structure interaction to accommodate the unique construction methods applied to this Project. All geotechnical work shall be completed to satisfy baseline and post-construction contract performance requirements as described below.
- g) Note that the lesser amount of total or differential settlement satisfying this section shall have precedence.
- h) Design and construct pavements, subgrades, and embankments to meet the following post-construction settlement tolerances:
 - i. Total vertical settlement less than two inches over the initial 20-years, and less than one inch over the initial 20-years within 100' of bridge abutments.
 - ii. Settlement that does not result in damage to adjacent or underlying structures, including utilities.
 - iii. Humps and depressions exceeding the specified tolerance will be subject to correction by the Concessionaire. Concessionaire shall notify the Quality Assurance Manager ("QAM") and the Department for any non-conformance items.
- i) Design foundations such that the maximum post-construction foundation settlement shall be less than one inch over the design life of the structure, and be in accordance with the requirements of the Concessionaire's structural engineer, whichever requires the least settlement. Coordinate with the Concessionaire's structural engineer to develop design criteria to mitigate structural damage or regular maintenance of structure and substructure elements.
- j) Further, the maximum differential settlement between adjacent bridge or structure foundations shall be in accordance with AASHTO requirements, or in accordance with the requirements of the Concessionaire's structural engineer, whichever requires less settlement.
- k) Design stable cut slopes and embankment slopes and evaluate stability for interim construction stages, for the end of construction condition, and for design-life conditions. Design shall satisfy the following criteria:
 - i. The maximum slope ratio to be used for permanent cut and/or roadway embankment fill slopes should not be steeper than 2H:1V.
 - ii. The minimum factor of safety against failure shall be 1.5 for the life of the road, dam or slope, determined by appropriate limit equilibrium methods.
 - iii. Incorporate reliability assessments as referenced above.

3.3.2 Slope Stability

- a) The following factors of safety are to be used with limit equilibrium methods of analysis to determine factors of safety for representative sections of all soil cut and soil embankment fill slope areas greater than 10' in height and/or where slopes are supporting on, or are supported by, retaining structures. The factors of safety listed in Table 3.3a below are valid for subsurface investigations performed in accordance with Chapter III of the Materials Division's Manual of Instructions or for site specific investigation plans approved by the Department's Materials Engineer. Approval of site specific investigation plans with reduced boring frequency may require higher factors of safety. Table 3.3a is not applicable for rock cut slopes.

Table 3.3a: Minimum Factors of Safety for Soil Cut/Fill Slopes		
Soil Slope analysis parameters based on:	Factor of Safety	
	Involves Structure or Critical Slope ¹	Non-Critical Slope
In-situ or lab. tests and measurements ^{2,3}	1.5	1.3
No site specific tests	N/A ³	1.5

1. A critical slope is defined as any slope that is greater than 25' in height, affects or supports a structure, or whose failure would result in significant cost for repair, or damage to, private property
2. Site specific in-situ tests include both groundwater measurements and SPT testing but may also include CPT or DMT
3. Parameters for critical slopes involving structures must be based on specific laboratory testing

3.4 Drainage

- a) Drainage includes all culverts, channels and appurtenant structures that provide the facility for removing and transporting runoff or conveying stream flows.
- b) The Concessionaire will design and install new drainage and will be permitted use of existing drainage, in accordance with the applicable standards and specifications defined in Attachment 1.5a.
- c) The Department shall procure the rehabilitation of the existing drainage system where any existing drainage asset is structurally deficient and/or design performance impaired and/or will not meet the relevant design criteria. Where the Department desires the Concessionaire to carry out the rehabilitation, the Concessionaire will produce a schedule of works required and agree with the Department a schedule for carrying out such work as a Department Change.
- d) All existing drainage facilities where the Concessionaire changes the hydraulic or structural load and the Concessionaire intends to leave in place, within the Project Right of Way, for continued use shall be evaluated and verified to have adequate hydraulic capacity, structural adequacy and to be in acceptable condition for the intended future use.
- e) The Concessionaire will provide stormwater management facilities only for additional impervious runoff created as a result of the Project and replacement of capacity for any existing stormwater management facilities that may be removed as a result of the Project.
- f) The Concessionaire will prepare a Stormwater Management Plan for the Project and submit to the Department for review and comment as required.
- g) The Concessionaire will include all Work for the design and construction of permanent and temporary erosion and sediment control measures.
- h) The Concessionaire shall perpetuate existing off site flow conditions. The Concessionaire will not be required to upgrade existing drainage facilities to accept increased runoff for any new developments within the project drainage areas.
- i) Concessionaire shall use minimum 18" reinforced concrete pipe for the drainage system on the Interstate and DTR/DAAR. If 15" reinforced concrete pipe is adequate to meet the hydraulic requirements in any area, then the Department will be directed as a Department Change.

3.5 Roadway Design

- a) The Concessionaire will design new roadways in accordance with the applicable standards and specifications defined in Attachment 1.5a unless a design exception or design waiver is approved.

- b) Functional classifications for roadways and specific design criteria on the Project are defined in Attachment 1.5b.
- c) The Project design will meet the requirements of the Beltway and I-66 Interchange Justification Reports (IJR) in Attachment 3.5 (Interchange Justification Report).
- d) The existing Interchange Justification Report (IJR) for the Springfield Interchange shall not require any amendments for the project.
- e) Recognizing the limited ROW, the Department accepts that obstructions will be placed in the clear zone along the Project corridor. Where present, obstruction will be protected with guardrail and/or barrier.

3.6 Pavements

- a) The Concessionaire will design all pavements in accordance with the Standards and shall meet the minimum pavement sections detailed in the I-495 Widening and Hot Lanes Pavement Notes 10-1-07 (Rev. 1) in Attachment 3.6.
- b) Pavement designs will meet the performance requirements for the applicable roadway classification and the design-year traffic estimates included in Attachment 1.5b (Design Criteria).
- c) Pavements will be designed to ensure positive drainage on the pavement surface and within the pavement structure, including connecting to existing or any new sub drainage systems.
- d) Any pavement reconstruction on arterials or local streets shall match the existing pavement type and section, unless otherwise required by the I-495 Widening and Hot Lanes Pavement Notes 10-1-07 (Rev. 1).

3.7 Fences and Barriers

- a) Flexible ground mounted channelizer posts (delineators) will be provided to separate the outside HOT lane and the inside General Purpose (GP) lane.
- b) The Concessionaire is responsible for securing the Works and providing all temporary fencing necessary to ensure the safety of the work force and members of the public.
- c) The Concessionaire will provide temporary 6-foot high chain link security fencing to separate the sound wall erection work zone and adjacent properties where a safety risk analysis determines it necessary.
- d) Glare screens will be installed on new concrete median barrier separating the HOT lanes where the height of the barrier requires the screens in accordance with Attachment 1.5a.

3.8 Noise Barriers

- a) The Concessionaire will provide permanent noise mitigation in compliance with the Virginia State Noise Abatement Policy.
- b) The final noise mitigation design will utilize the design year 2030 for traffic volumes defined in Attachment 1.5b and associated noise levels.
- c) The Concessionaire will present all feasible and reasonable sound barriers as “barriers under consideration” on design plans at the design public hearing. Upon completion of the public hearing, the Concessionaire will schedule a meeting with the Joint FHWA / Department Noise Abatement Committee (NAC). The findings will be presented to the NAC for final determination of which barriers will be constructed. Letters are to be prepared and mailed “certified return receipt” to impacted citizens for barriers that are being carried through construction. Concurrence letter outlining the results of the NAC meeting will be prepared for the Department’s Chief Engineer and FHWA. Any significant changes made to the barriers during the final design process that occur after the Chief Engineer/FHWA concurrence will be presented to the Department’s Noise Abatement Section Manager for approval. Upon completion of the public

survey, a second concurrence letter will be prepared documenting the results. All work will be conducted in accordance with the State Noise Abatement Policy.

3.9 Landscaping

- a) No new landscaping will be provided for the Project.

3.10 Pavement Marking

- a) The Concessionaire will provide pavement markings and raised snow-plowable pavement markers.
- b) On any pavement reconstruction undertaken by the Concessionaire the Concessionaire will tie in with the existing permanent pavement marking systems.

3.11 Static Signs

- a) The Concessionaire will provide new static signs to provide directional information for the HOT lanes on the Project.
- b) The limit of HOT Lanes directional signage that extends outside the Project Right of Way is described below;
 - i. to the American Legion Bridge in the north;
 - ii. eastern boundary in a north south line approximately 2 miles east of the I-66/DTR interchange;
 - iii. western boundary in a north south line approximately 5 miles west of the Beltway; and
 - iv. in the south, along I-495 to the east for at least 2 miles, and I-395 - I-95, 2 miles north and south respectively.
- c) The Concessionaire will be responsible for coordination with the Department or the pertinent local agencies in order to install directional signage located outside the Project Right of Way.
- d) The Concessionaire will provide the necessary warning and regulatory signs for the HOT lanes and the General Purpose (GP) lanes within the Project Right of Way.
- e) The Concessionaire will reset existing signs located within the Project Right of Way as needed.
- f) With approval from the Department, the Concessionaire may modify or remove existing static signs and structures within the Project Right of Way that are rendered inaccurate, ineffective, confusing or unnecessary by the Concessionaire.
- g) The Concessionaire is not required to upgrade retained existing signs within the Project Right of Way to meet current standards and specifications.
- h) All new overhead static signs within the Project Right of Way shall be lighted.
- i) HOT Lane directional signs shall be provided on all I-495 cross streets approaching I-495 HOT Lane entry ramps.
- j) Post Interchange Distance Signs will be installed on the GP lanes (8 total) and on the HOT lanes (4 total) in accordance with applicable standards where space and/or permanent structures permit.
- k) Concessionaire shall place milepost and intermediate markers at 0.2 mile intervals on the right side of the roadway on the Capital Beltway in each direction within the Project Right of Way and on the new interchange ramps connecting the Beltway to I-66 and DTR/DAAR, and on the Phase VIII Springfield Interchange roadways and structures. Median mounted milepost markers designating the HOT lanes are not required.

- l) The milepost and intermediate markers shall be MUTCD Standard 2E-54 Enhanced Reference Location Signs. The incremental cost to upgrade each marker from the Department's Standard Drawing 1301.83 to Enhanced Reference Signs shall be reimbursed by the Department as a Department Change.

3.12 Lighting

- a) Any requirement for continuous lighting on the I-495 Beltway will be directed as a Department Change.
- b) Concessionaire shall conduct a lighting warrant study pursuant to the Department's lighting warrants and the FHWA Roadway Lighting Handbook (Analyzing Lighting Needs). Concessionaire shall provide roadway lighting as required based on the results of the lighting warrant study. In areas where existing roadway lighting is not present, the additional cost for any warranted roadway lighting will be a Department Change except where:
 - i. lighting is required for new ingress/egress HOT lane movements, or
 - ii. lighting is a requirement of design exception or IJR mitigation proposed by the Concessionaire/Contractor and is not continuous lighting.
- c) The Concessionaire will design lighting in accordance with the applicable standards and specifications defined in Attachment 1.5a.
- d) The Concessionaire will design the Project to include modifications and/or improvements to existing interchange roadway lighting systems and new basic roadway lighting systems to meet Department lighting requirements to the extent noted below.
- e) Lighting modification, excluding any new permanent lighting elements, will be provided at the following interchanges with existing road lighting:
 - i. US 50 Arlington Boulevard interchange: Modifications include the relocation of some existing high-mast light poles and rerouting of the existing roadway lighting circuitry to the relocated light poles.
 - ii. Springfield Interchange: Modifications to existing bridge lighting will be made to accommodate the new Direct Connectors (DCs).
- f) Lighting modifications and/or improvements, including limited new permanent lighting elements, will be provided at the following interchanges with existing road lighting:
 - i. I-66 Interstate interchange: Modifications include adjustments to an existing Department service panel, the addition of some new roadway lighting service panels, relocation of existing conventional low-level light poles in various locations of the interchange, rerouting existing roadway lighting circuits to the proposed locations of the relocated light poles and to the locations of the new roadway lighting service panels. Improvements include a reduction and balancing of electrical load for existing Department Service Panel 1 (I-66 westbound, west of 495) and sectional roadway lighting circuit distribution from the new roadway lighting service panels.
 - ii. New lighting will be provided at the entry and exit connections to the HOT lanes.
 - iii. Underbridge lighting will be provided as necessary for new I-495 Capital Beltway bridge structures where the structures form an overpass or underpass on the Project.
- g) Lighting will be provided for grade separated bicycle and pedestrian crossings as per the Department's Traffic Engineering Manual at the following crossings:
 - i. north of Route 620 at Sta. 656+60
 - ii. Washington and Old Dominion bike trail located north of I-66 at Sta. 916+85.
- h) The Concessionaire will install and connect power service for lighting for the Project.
- i) No backup power will be provided for lighting.

- j) Conductor cables will be placed in buried conduit, embedded conduit or bridge mounted conduit.
- k) Existing lighting structures removed or disturbed shall be replaced.

3.13 Traffic Signals

- a) The Concessionaire shall supply and install temporary and permanent traffic signals for the Project as shown in Project Scope Document.
- b) The Concessionaire will design the Project to include modifications to existing and proposed traffic signal installations as shown in Project Scope Document. All pedestrian signal displays shall be countdown signals.
- c) The Concessionaire will connect new permanent signals for the Project to the existing Department signal system by providing a direct T-1 phone drop connection at each cabinet for direct connection to the Department's Traffic Management Center using the Department's signal system communications provider.
- d) New traffic signals on the Project will be integrated with existing traffic signals using the following approach:
 - i. The Concessionaire will design, program, adjust controller timings, test and commission the new signalized intersections on a coordinated control basis.
 - ii. The Department shall test and commission the local signalized intersection with the existing traffic signal system on a system wide basis and any re-timing of existing signals shall be performed by the Department.
 - iii. Traffic signal timing will be optimized to ensure that traffic on the HOT lane entry and exit ramps and approaching roadways does not normally produce queues that create a safety hazard on either the HOT lanes or approaching roadways.
- e) The Concessionaire will keep the existing signalized intersections within the Project Right of Way functional during the Work Period. If signals must be shut down, the Concessionaire will provide temporary signals or appropriate traffic control.
- f) For each phase defined in the MOT Plan and TCPs, the Concessionaire will develop signal timing plans for the Project and roadways designated as detours and submit the plans to the Department. Concessionaire shall implement, test and adjust signal timings to prevailing conditions.
- g) The Concessionaire shall install and connect power service for temporary and permanent traffic signals for the Project.
- h) Conductor/communication cables will be placed in buried conduit, embedded conduit or bridge mounted conduit.

3.14 Tolling and Traffic Management Systems

3.14.1 Existing ITS Infrastructure

- a) The existing Department ITS Infrastructure and telecommunication system (as outlined below), will be made available to the Concessionaire for use by Concessionaire or its agents or subcontractors in order to support the Tolling and Traffic Management Systems subject to the reasonable agreement of Concessionaire and the Department and subject to mutually agreed standard operating procedures (SOP).
- b) The existing and proposed / expanded Department owned or operated fiber optic cable in as-is condition will be made available to the Concessionaire to support the Tolling System; and the Traffic Management System. A minimum of 3 fiber pairs will be reserved for use by the Concessionaire for the purposes of the Project.

- c) Individual conduit with or without innerduct within the existing and proposed/expanded Department owned or operated fiber optic duct bank in as is condition will be made available to the Concessionaire for use by Concessionaire or its agents or subcontractors in order to provide fiber optic service to the Tolling and Traffic Management Systems with dedicated Concessionaire fiber optic cable installed and owned by the Concessionaire; and dedicated Department fiber optic cable, installed by the Concessionaire and owned by the Department. Such conduit/innerduct is to be reserved for use by the Concessionaire for purposes of the Project.
- d) Except with respect to gross negligence or willful misconduct by the Department, its employees, agents or subcontractors, the Department shall have no liability to Concessionaire arising out of the Department's provision of the Department telecommunications system to Concessionaire as set forth above, subject to the requirement that the Department undertake required activities to maintain the Department telecommunications system in a suitable condition for use by Concessionaire as set forth above and in accordance with the requirements under the ARCA. The Department is not relieved from any liability to Concessionaire resulting from any negligent or willful misconduct activity by Department staff, subcontractors or agents, or from Department directed activities that damage the Department telecommunications system or otherwise impair the ability of Concessionaire to use the Department telecommunications system as outlined above.
- e) Maintenance activity for/on fiber optic cable and/or duct bank including junction/splice pits jointly occupied by the Concessionaire and the Department shall be subject to a joint agreement between Concessionaire and the Department and mutually agreed SOPs.

3.14.2 Business and Toll Operating Model

- a) The business and toll operating model shall comply with the requirements of the ARCA.
- b) A HOT Operations Center (HOT-OC) shall be constructed to support HOT lane traffic management, incident response, maintenance and tolling operations including handling of services directly related to the operation and maintenance of the HOT lanes.
- c) Tolling equipment shall be installed to detect for the presence of a transponder for users on the HOT lanes by means of an E-ZPass compliant (and any successor to E-ZPass utilized on State Highways) Transponder Detection Equipment. Transponders in the vehicles shall return a signal which identifies the transponder.
- d) Transponders that shall be read will be E-ZPass compliant (and any successor to E-ZPass utilized on State Highways), either issued by the Department or by another member of the IAG.
- e) Transponder Detection Equipment shall be installed allowing individual Toll Sections to be separately charged, with rates appropriate to the distance traveled and the prevailing conditions on the road.
- f) Toll pricing shall be designed to maintain Free-flow under Normal Conditions in the HOT lanes in accordance with the ARCA. However, demand for the use of the HOT lanes will vary considerably day by day and by time of day. Accordingly, the price schedule shall be varied as necessary to maintain the desired Free-flow condition.
- g) Users shall be advised of the tolls that they will pay at their point of decision to enter and point of entry to the HOT lanes and shall be provided with sufficient information to make a decision to use the HOT lanes.
- h) A Vehicle Enforcement System shall be implemented to enable the detection and enforcement of Violators. Enforcement will follow practices established on similar systems and shall be in compliance with relevant Statutes. It may include manual processes, video enforcement, integrating customer service, technology and operational performance elements.

- i) An enforcement area shall be provided at or near each tolling point where practical to provide a 'safe' location adjacent to the toll gantries for a Law Enforcement Officer vehicle.

3.14.3 Systems Integration and Protocols

- a) The Concessionaire shall implement a system engineering approach in the development of systems and their associated interfaces. The system engineering approach shall address the following items where applicable:
 - i. system architecture
 - ii. system specification
 - iii. interface identification
 - iv. interface specification
 - v. interface control
 - vi. system integration
 - vii. configuration management
- b) The Capital Beltway HOT lanes TMS shall be required to interface to the Department's Advanced Traffic Management System (ATMS) at the Public Safety and Transportation Operations Center (PSTOC) in accordance with the Interface Specification (Attachment 3.14).
- c) The Concessionaire shall develop and maintain a Capital Beltway HOT Lanes Project Architecture in conformity with the Department Northern Region Operations (NRO) ITS Architecture and the National Capital Region (NCR) ITS Architecture. The Project Architecture shall document all interconnects and information flows between the HOT-OC and the Department Traffic Management Center (TMC).
- d) The Concessionaire shall prepare a Rule 940 Checklist for ITS infrastructure for submission to Federal Highway Administration via the Department's NRO.
- e) Subject to the provisions of the ARCA, the Concessionaire shall ensure that such standards, protocols and interfaces are present in the HOT-OC CCCS so as to make the TMS system interoperable with the Department's NRO Advanced Traffic Management System in accordance with the Interface Specification including any mutually agreed revisions during the Operations Phase.

3.14.4 Tolling System and TMS Design Documentation

- a) Tolling System and TMS Design Documentation shall be prepared and submitted to the Department as follows:
 - i. Functional Specifications – 'Concept of Operations' - shall be a document or documents prepared by the Concessionaire which outlines the characteristics of the Tolling and TMS with regard to its intended capability. It shall describe the intended behavior and functionality of the Tolling and TMS and the operational interaction with the Department's ATMS.
 - ii. Technical Specifications - shall be a document or documents prepared by the Concessionaire which specifies the technical design of the integrated sub-systems that will comprise the Tolling and TMS and its interfaces.
 - iii. Interface Specification (Attachment 3.14) - shall be a document that describes the physical and logical architecture of system interface between the HOT-OC Traffic Management System (TMS) and the Department Northern Region ATMS.
 - iv. The Process Definition Deliverable or other agreed document shall be a document prepared by the Concessionaire which sets out the business processes relating to the Tolling System and TMS provided by the Concessionaire (subject to Intellectual

Property (IP) and the requirements of the ARCA) and the processes for interacting with the appropriate Department System and/or other systems as required

- v. The Test Strategy - shall be a document (or part of another document) prepared by the Concessionaire which sets out the principles of, and the Concessionaire's approach to, the testing of the Tolling and TMS and its interfaces, including the test stages and processes.
- vi. The Security Plan shall be a document (or part of another document) prepared by the Concessionaire which sets out how the security of the Tolling System and TMS, including the sub systems, communication links, Roadside Equipment and HOT-OC shall meet the relevant requirements for enforcement evidence and that data are held securely and only accessible to authorized personnel.
- vii. The Disaster Recovery Plan shall be a document (or part of another document) prepared by the Concessionaire which sets out the procedures to be adopted in the event of failure of the Tolling and/or TMS System.

3.14.5 Tolling System

- a) A Tolling System shall be provided to impose, charge, collect, use and enforce payment of tolls and other incidental fees and charges reasonable and customary for vehicles using the HOT lanes.
- b) The Tolling System is to comprise the following equipment and/or systems:
 - i. tolling system Roadside Equipment
 - ii. tolling system equipment and/or sub-systems
- c) The tolling system road side equipment is to comprise:
 - i. Transponder Detection Equipment
 - ii. control equipment
- d) The Tolling System shall have a Transponder Transaction Performance of at least [99.90]% under normal operation, for properly fitted and operating transponders, excluding signal attenuation due to metallic wind screen or similar.
- e) The Tolling System and dynamic pricing algorithm module shall be able to:
 - i. receive data gathered from each road segment on traffic volume, lane occupancy and speed data at detection points from the Traffic Management System,
 - ii. adjust toll prices in order to maintain free-flow traffic conditions
- f) The Concessionaire shall provide toll charge transaction information in compliance with an interface specification to be developed between the Concessionaire and the Department or other toll transaction account management services provider..
- g) The Concessionaire shall develop interface file format and transfer protocols for the transmission of toll transaction data and related information in cooperation with the Department in accordance with an interface specification to be developed and the Electronic Toll Collection Agreement
- h) Communication between the tolling system road side equipment and the HOT-OC will be via the fully redundant fiber optic network described in Section 3.14.17.

3.14.6 Vehicle Enforcement System

- a) A Vehicle Enforcement System shall be provided that detects vehicles using the HOT lanes that do not have a transponder or a valid transponder.
- b) The vehicle enforcement system is to comprise:

- i. Vehicle Enforcement System (VES) equipment
- ii. control equipment
- c) When tolls for any Toll Section are suspended there shall be a means to suspend Vehicle Enforcement.
- d) The VES road side equipment shall have an In Service Availability (ISA) of at least [99.90]%.
- e) A process must be established to determine HOV occupancy and undertake related enforcement.

3.14.7 Technical Shelters

- a) The Concessionaire shall provide suitable technical shelters housing electrical cabinets for the Tolling System and TMS equipment as required.
- b) The technical shelters shall be equipped with the following provisions:
 - i. HVAC as required to support installed equipment
 - ii. fire detection
 - iii. intrusion detection
- c) Each HOT lanes service panel for the Technical Shelters shall be equipped with telemetry equipment that reports, for the main power and each branch circuit, the current flow and any ground faults.
- d) The telemetry shall be powered by an Uninterruptible Power Source (UPS) to enable the telemetry to communicate for the first 20 minutes after a power failure.
- e) Service panels feeding technical shelters shall be equipped with a backup generator which will be sized to accommodate the attached electrical load including Dynamic Message Signs (DMSs) connected to the service panel.

3.14.8 Project HOT Operations Center (OC)

- a) The Concessionaire shall provide a HOT Operations Center (HOT-OC) that complies with the applicable building and fire codes to accommodate equipment and personnel for the operation of the HOT lanes.
- b) The Concessionaire shall obtain building permits and County and State Regulatory approvals required for the construction and occupancy of the HOT-OC.
- c) The Concessionaire shall procure any zoning variances required for the property to be used for the Project HOT-OC.
- d) The Concessionaire shall provide a HOT-OC with provisions including:
 - i. Offices
 - ii. meeting rooms
 - iii. a control room with a video wall
 - iv. a computer equipment room, with raised computer floor or an equivalent means of distributing cables
 - v. restrooms, showers, change room and lockers
 - vi. an external and internal access security system
 - vii. a HVAC system
 - viii. a fire detection and alarm system
 - ix. emergency and backup power

- x. maintenance management rooms and storage
- xi. adequate surface areas for employee and visitor vehicle parking within the constraints of the property boundaries and the remaining site space following the deduction of the building footprint
- e) The control room shall be equipped with Traffic Management System (TMS) and Tolling System equipment and systems and shall accommodate the HOT lanes control staff for the operation of the HOT lanes..
- f) All offices and rooms shall be Americans With Disabilities Act (ADA) accessible to all employees and visitors.

3.14.9 Traffic Management System

- a) A Traffic Management System (TMS) shall be provided that enables the Concessionaire to monitor and manage traffic flow on the HOT lanes.
- b) The TMS must allow the Concessionaire to:
 - i. support response to emergency situations on the HOT lanes in the shortest possible time frame;
 - ii. optimize the traffic flow on the HOT lanes;
 - iii. detect and manage traffic Incidents effectively, through a comprehensive incident management system, to mitigate the impacts of Incidents and prevent secondary Incidents occurring;
 - iv. provide credible and timely driver information about travel times, traffic conditions and Incident situations; and contribute to the calculation of dynamic toll prices through the provision of traffic conditions data and provide timely and accurate toll prices to motorists related to HOT lanes. Travel time information for the GP lanes is the Department's responsibility.
 - v. Provide an interface with the Department's ATMS in accordance with the Interface Specification (Attachment 3.14).
 - vi. support provision of driver aid to motorists in vehicles that have stopped on the HOT lanes;
 - vii. permit the Department TMC to control DMS (HOT lanes) via the HOT-OC CCCS in agreed circumstances;
 - viii. provide for the control and monitoring of TMS components and sub-systems through a modern and comprehensive computer based control facility utilizing graphical user interface (GUIs)
 - ix. monitor facilities, plant and equipment.
- c) The TMS is to comprise the following equipment and/or systems:
 - i. TMS road side equipment
 - ii. TMS equipment and/or systems located in the HOT-OC
- d) The TMS road side equipment is to comprise:
 - i. Dynamic Message Signs (DMSs) for the HOT lanes to provide toll and driver information and general traffic management information.
 - ii. Pan Tilt Zoom (PTZ) CCTV cameras to provide video surveillance
 - iii. traffic monitoring sensors to provide traffic volume, lane occupancy and speed data
- e) Reversible roadway gates shall be provided at the Springfield interchange as shown in Project Scope Document.

- f) The TMS HOT-OC based equipment and/or systems are to comprise:
 - i. an Automatic Incident Detection (AID) subsystem
 - ii. a CCTV subsystem
 - iii. a Central Control Computer System (CCCS).
- g) The CCCS shall have an In Service Availability (ISA) of at least 99.995% and the CCCS (Redundant Components) of at least 99.9%.
- h) Behavioral studies and market research shall be undertaken by the Concessionaire to confirm the requirements for the type and format of messages to be provided on the DMSs and static signage for optimum information provision. Findings and recommendations shall be provided to the Department for review during the design review process and no later than 6 months prior to Substantial Completion. The type and format of DMS messages must comply with the requirements of MUTCD and/or Department practices as appropriate.
- i) The TMS road side equipment shall have an In Service Availability (ISA) of at least 99.9%.
- j) Equipment cabinets shall be provided for the TMS road side equipment at appropriate locations along the alignment and within the Project Right of Way.
- k) The TMS and TMS roadside equipment is not required to be completed to satisfy the conditions for Substantial Completion of segments but shall be complete to satisfy the conditions for Substantial Completion of the Project. Existing VDOT owned TMS roadside equipment that is currently operating, will be in operating condition, at the time of Substantial Completion of a segment, and will be removed or integrated into the new TMS system by Project Substantial Completion.

3.14.10 CCTV Video Coverage

- a) Dedicated CCTV cameras shall be provided for the following functions:
 - i. Automatic Incident Detection (AID) on the HOT lanes
 - ii. surveillance of the HOT lanes including approaches and interchanges
 - iii. surveillance of the GP lanes by the Department
- b) CCTV video coverage must be provided by Pan Tilt Zoom CCTV cameras mounted on poles to enable HOT OC operators and Department operators to observe traffic along every section of the Capital Beltway within the limits of the Project at all hours of the day and in all weather conditions normally encountered in Virginia, consistent with reported visibility restriction (i.e. during snow storms, fog etc.). The video provided must be stable, jitter free and suitable for video based Automatic Incident Detection (AID).
- c) One dedicated camera shall be provided for surveillance of the GP lanes under Department TMC operator control.
- d) Three dedicated cameras or other equipment as specified shall be provided for surveillance of the HOT lanes or to enable video based AID under Concessionaire HOT OC operator control.
- e) CCTV line of sight distances shall not generally exceed one mile to avoid image degradation.
- f) The video surveillance system must enable the identification of the number and vehicle types involved in an incident at all locations within the surveillance area.
- g) The video provided must be stable at all zoom settings when viewing objects up to 1 mile away.

3.14.11 Video based Automated Incident Detection (AID)

- a) For selected locations, the Concessionaire may implement video based AID for the HOT lanes. This shall be at locations where:

- i. the risk of traffic incidents is expected to be higher than average,
 - ii. rapid detection of incidents is required for special reasons e.g. near critical infrastructure.
- b) The Video based AID system should be capable of:
- i. detecting 95% of incidents involving stopped vehicles, slow vehicles and slow traffic that are within the field of view of a CCTV camera or other equipment as specified,
 - ii. detecting pedestrians on the roadway
 - iii. a false alarm rate of less than 1 false alarm per 10 true alarms
 - iv. detecting incidents and provide an alarm to the TCRO in less than 30 seconds
- c) On the detection of an incident the AID system must record the video at a rate of at least five frames per second for the period 30 seconds before the incident and 60 seconds after the incident.

3.14.12 Video Recording

- a) It shall be possible to simultaneously record video from all CCTV cameras at a rate of at least one frame per second.
- b) Sufficient capacity must be provided to store the recorded video from all CCTV cameras for up to five days and continue to record video without intervention.
- c) It shall be possible to simultaneously record the video on at least two video monitors in the HOT-OC for a continuous period of at least two hours. Video quality must be equivalent to at least the SVHS PAL/NSTC format at a minimum of 24 frames/second.

3.14.13 CCTV Communications standards

- a) CCTV communications standards shall be MPEG-4 at 4Mbps or H.264 or mutually agreed equivalent. Video performance requirements will be based on a minimum requirement of D1 resolution as defined by NTSC, a 30 frames per second video image and no pixilation upon panning or tilting of the camera. Final video rates/formats to be agreed prior to activation of the system.

3.14.14 Traffic Monitoring Sensors

- a) Traffic monitoring sensors are to be installed to monitor and report in real time traffic volume, lane occupancy and speed data on the HOT lanes and where available, GP lanes.
- b) Information collected on the GP Lanes and HOT Lanes will be made available to the Department. Data will be provided in raw form and be subject to quality control requirements. Data shall be aggregated in increments to be mutually agreed.
- c) Traffic monitoring sensors shall be installed by the Concessionaire approximately every 1/3 mile (preferred) up to a maximum of 3/5 of a mile and in-between interchanges and within interchanges where possible.
- d) Existing Department owned and properly functioning traffic monitoring sensors will be utilized where appropriate in lieu of the installation of new sensors.

3.14.15 Dynamic Message Signs (DMS)

- a) Toll and Driver Information DMS for the HOT lanes shall be located prior to each entry to the HOT lanes and will display sufficient information to allow drivers to make appropriate decisions on whether to use the HOT Lanes. The information to be displayed will be determined following behavioral studies and market research and may indicate;
 - i. price levels for up to three major destination points for each point of entry

- ii. travel time information for HOT lanes for up to three major destination points
- b) Two DMS shall be installed at suitable distances from the HOT lane entrance to support motorist decision making and orderly movement of traffic.
- c) The Toll and Driver Information DMS shall have the following minimum features:
 - i. full graphics monochrome LED display providing a minimum of three lines of text
 - ii. capability to display congestion levels on HOT and GP lanes on each tolling section
 - iii. capability to display toll price on each tolling section
 - iv. capability to display travel time information for GP and HOT lanes for each tolling section, or alternatively the travel time difference between GP lanes and HOT lanes for each tolling section,
 - v. capability to display traffic management information including warning and recommended diversions,
 - vi. advanced fault detection and reporting, and
 - vii. conformance to the NTCIP communications protocol or other industry protocol agreed with the Department.
- d) If communication with the HOT-OC CCCS is lost, and the Toll and Driver Information (T&DI) DMS has no reported errors, the T&DI DMS shall display a user defined graphic / message.
- e) At least eight DMS shall be installed on the HOT Lanes mainline to provide traffic management information to motorists.
- f) The Traffic Management DMS shall have the following minimum features:
 - i. full graphics monochrome LED display providing a minimum of three lines of text
 - ii. capability to display traffic management information including warning and recommended diversions,
 - iii. advanced fault detection and reporting, and
 - iv. conformance to the NTCIP communications protocol or other industry protocol agreed with the Department.
- g) The DMS must not display erroneous information due to a fault with the sign or the loss of pixels.

3.14.16 TMS Availability

- a) An In Service Availability (ISA) of at least 99.99% is required for the following functions:
 - i. calculation of accurate travel time on HOT lanes, and
 - ii. calculation of dynamic toll prices and provision of information to other systems /devices.
- b) All other TMS functions unless noted otherwise must have an ISA of at least 99.9%
- c) In cases where redundancy is provided, the system must switch between redundant components seamlessly (without impact to operator functionality). The system must also provide the capability to manually switch between redundant devices in order to support software upgrades/reversion and maintenance procedures

3.14.17 Communications infrastructure

- a) Communication between the Tolling and TMS road side equipment and the HOT-OC shall be via a fully redundant fiber optic network using Spanning Tree Protocol (or equivalent) to ensure no single points of failure and reliability and shall comprise:

- i. a HOT trunk fiber optic loop
 - ii. local HOT distribution fiber optic loops
 - iii. Department fiber optic distribution cable.
- b) The HOT trunk fiber optic loop shall be comprised of new fiber optic cable and fibers from existing Department fiber optic cable subject to availability in accordance to Section 3.14.1.
- c) The local HOT distribution fiber optic loops shall be comprised of new fiber optic cable.
- d) The Department's fiber optic distribution cable shall be comprised of new fiber optic cable and fibers from existing Department fiber optic cable.
- e) The Concessionaire shall provide and install the underground fiber optic communications network in a conduit bank along the I-495 Capital Beltway and within the Project Right of Way with a connection to the HOT-OC (excluding the existing Department fiber optic provisions defined above).
- f) The Concessionaire shall make use of existing buried empty Department conduit for the installation of the fiber optic network for the Project subject to availability in accordance to section 3.14.1.
- g) The new communications conduit bank for the Project shall consist of 2 four-inch diameter PVC conduits with the following configuration:
 - i. one Concessionaire's conduit containing a 3-barrel textile inner duct carrying:
 - 1. a 36-fiber HOT trunk cable
 - 2. a 24-fiber HOT distribution cable
 - ii. one Department conduit carrying:
 - 3. a 36 fiber Department distribution cable.
- h) DMSs may utilize spread spectrum radio (or equivalent wireless connectivity) to provide communication in place of a distribution fiber optic cable, such that specified reliability is not compromised.
- i) An interagency fiber optic network shall be installed and maintained by the Department and shall be utilized to provide communication between the HOT-OC and the following facilities:
 - i. the Public Safety and Transportation Operations Center (PSTOC) located at the corner of West Ox Road and US Route 29 in Fairfax County that houses:
 - 1. The Department's Smart Traffic Center (STC)
 - 2. Fairfax County's 911 Center
 - 3. Virginia State Police's Call Center (#77) and District 7 Headquarters
 - ii. The Department's backup STC located at the Traffic Operations Building on Mason King Court, Manassas, Va.
- j) The interagency fiber optic network will be completed by June 30, 2011 under a multi agency agreement between the Department and WMATA. Under the Department's auspices as a party to the multi agency agreement, the Concessionaire will have access to the fiber optic network as detailed in section 3.14.1.
- k) Conductor/communication cables will be placed in buried conduit, embedded conduit or bridge mounted conduit.

3.14.18 Existing Department TMS Roadside Equipment

- a) Existing Department TMS road side equipment or Third Party TMS road side equipment installed under permit with the Department includes the following equipment located within the Project Right of Way:
 - i. weather stations
 - ii. DMSs for the existing GP lanes to provide general traffic management information
 - iii. CCTV cameras
 - iv. traffic monitoring sensors
- b) The Concessionaire shall relocate existing functional Department TMS road side equipment located within the Project Right of Way that is impacted by construction, including power and communication service to the equipment and ensure that loss of functionality is minimized.
- c) Any Third Party TMS road side equipment located within the Project Right of Way that is impacted by construction, including power and communication service to the equipment shall be relocated by the Third Party equipment owner under the direction of the Department. Concessionaire shall provide three weeks notification of disturbance of equipment.
- d) The Department shall remain responsible for the operation and maintenance of the existing and relocated Department TMS roadside equipment.
- e) Third Party equipment owners shall remain responsible for the operation and maintenance of the existing and relocated Third Party TMS roadside equipment.

3.14.19 Power

- a) The Concessionaire shall install and connect power service for the Tolling and TMS equipment for the Project.
- b) The power supply for HOT lanes Tolling and HOT lanes TMS equipment shall be separately metered from roadway lighting, traffic signals and Department equipment. At the Department's sole discretion new Tolling and TMS equipment may be connected to existing Department electrical service panels.

3.14.20 Interface with the Department System

- a) The interface to the Department System is to comply with the requirements of the Interface Specification (Attachment 3.14).
- b) TMS shall not effect any change to the Department System or the procedures for the operation and maintenance of the Department System unless otherwise required by the provisions of this Exhibit N and the Interface Specification.
- c) The Tolling and TMS shall not cause any unscheduled interruption or adverse affect to the continued functioning of the Department System or the operations supporting it.
- d) The Department System shall not cause any unscheduled interruption or adverse affect to the continued functioning of the Tolling System and TMS or the operations supporting it.
- e) The Tolling and TMS shall be capable of being electrically (and where relevant optically) and mechanically isolated from the Department System.
- f) The Concessionaire shall:
 - i. provide external electronic interfaces between the Tolling and TMS and the Department System in accordance with the Interface Specification;
 - ii. work with the Department and its sub-contractors to construct, test and operate all specified interfaces; and

- iii. prepare and document the designs as outlined in Section 3.14.4. This may include but not be limited to:
 1. the content of the data to be exchanged;
 2. the format of the data to be exchanged;
 3. the static data which are required to decipher the meaning of the data exchanged;
 4. the bearer protocols to be used;
 5. any sequencing constraints or assumptions;
 6. error handling measures;
 7. measures to ensure data integrity;
 8. the nature of testing and the associated test data to be used; and
 9. any other information necessary for the interface to operate correctly.
- g) The Tolling and TMS shall have a mechanism to control the rate of transmission of messages/file to the Department System, such mechanism to be mutually agreed and in accordance with the Interface Specification.
- h) If the interface to the Department System is unavailable the Tolling System shall be able to store all Records for an agreed period up to five (5) days maximum on secure media and transmit them to the Department System once the interface is restored.

3.14.21 Data Processing Capacity

- a) The Concessionaire shall ensure that the Tolling and TMS has at all times sufficient data processing Capacity.

3.14.22 Alarm reporting

- a) The Tolling and TMS shall have the capability to monitor the status of all relevant components and to raise alarms in the event of component failure, performance degradation or any other potential issues that might adversely affect the operation or performance of the Tolling and TMS.

3.14.23 Security

- a) The Concessionaire shall prepare and submit to the Department a Security Plan for the HOT Lanes Operations.
- b) The Security Plan shall embody the following key principles for the protection of data:
 - i. Integrity: data shall be protected from being corrupted by unauthorized changes whether by system error, human error or intentional alteration. Data shall only be modified by authorized users according to defined privileges and procedures;
 - ii. Confidentiality: data shall be protected from unauthorized disclosure. Access to systems shall be restricted to authorized users with privileges appropriate to the confidentiality of the data; and
 - iii. Availability: data shall be prevented from being lost or becoming inaccessible. Authorized users shall be able to gain access to information to which they are privileged whenever they are authorized to do so.

3.14.24 Disaster Recovery

- a) The Concessionaire shall prepare, implement and maintain a Disaster Recovery Plan for the HOT Lanes Operations which may include but not be limited to:

- i. mitigating any adverse impact on the Tolling System and its operation and/or TMS, in any circumstances where the ability of the Concessionaire to provide the operation of the Tolling System would otherwise be impaired; and
 - ii. make provision for action to be taken by the Concessionaire in the event of non availability of his premises.
- b) The Disaster Recovery Plan shall identify the measures to be taken in the event of:
 - i. HOT-OC site loss;
 - ii. Roadside equipment site loss;
 - iii. System data loss or corruption;
 - iv. Systems failure;
 - v. Failure of the communications link with the Department System;
 - vi. Failure of the communication links between the roadside equipment and the HOT-OC;
 - vii. Loss of power in the locality; and
 - viii. Inability of staff to gain access to, or work effectively at, the HOT-OC.

3.14.25 Performance Recording and Reporting

- a) The Tolling and TMS shall incorporate the necessary tools to enable the recording and reporting of performance to meet the requirements under the ARCA.

3.14.26 Testing

- a) The Concessionaire shall submit to the Department a Test Strategy for the HOT lanes that shall include as a minimum:
 - i. the scope, requirements and objectives;
 - ii. an overall high level plan for the testing of the Tolling and TMS, including the test stages and processes and the scheduling of all tests prior to Service Commencement Date;
 - iii. the roles and responsibilities of all those involved with the testing program and any dependencies on Third Parties including Department personnel;
- b) Testing and commissioning where applicable shall be based on the application of a systems engineering methodology such as ANSI/GEIA EIA-632. Testing and commissioning will utilize:
 - i. a Verification Cross Reference Index (VCRI) which will be developed and documented for the purposes of establishing the way in which requirements are satisfied. The VCRI shall utilize test, demonstrate, inspect and analyze as methods for acceptance
 - ii. test series shall be conducted to demonstrate compliance with the performance requirements through a test plan and procedures
 - iii. a testing strategy document shall be developed which details how the testing plan will be implemented to demonstrate conformance of the proposed solution to the various functional, technical and performance requirements
 - iv. a test plan document shall be developed detailing how the testing strategy will be executed to demonstrate the various functional, technical and performance requirements for compliance to requirements. This test plan shall include:
 - 1. test specifications for each of the test cycles

2. detailed requirements traceability matrix linking each of the test series to relevant requirement(s)
 3. detailed test script(s) for each of the test series, including input / process / output at each of the steps so that conformance can be monitored.
- c) The testing strategy for the HOT lanes will provide the level of detail to ensure compliance with the overall testing requirements. This testing strategy shall include:
- i. system design and integration overview
 - ii. User Acceptance Testing (UAT) - to ensure that individual functions operate as defined in the requirements specification or similar documents and the complete end-to-end process is tested
 - iii. Factory Acceptance Testing (FAT) - tests to be conducted at the supplier's premises to verify that the equipment, sub-system or system complies with the functional and performance requirements of that supplier's subcontract
 - iv. Site Acceptance Testing (SAT) - tests to be conducted at the point of installation (Tolling Point and HOT-OC) to confirm the FAT results, plus any omissions and/or errors noted during the FAT
 - v. Integration Acceptance Testing (IAT) - a test conducted to ensure that the complete Tolling and Traffic Management System (TMS) meets the end-to-end system-level functional and performance requirements in normal operating conditions. :

3.14.27 Standards

- a) The Tolling and TMS shall be designed, implemented, maintained, repaired and replaced in accordance with all relevant national and international standards as detailed in Attachment 1.5a.

3.14.28 Department obligations

- a) The Department are to actively participate in the requirements for Testing and Integration as outlined above to meet the required timeframes.
- b) The PSTOC will be completed and in-service by at least 18 months prior to Substantial Completion date to enable integration with the HOT-OC.

3.15 Structures and toll gantries

3.15.1 Permanent Structures

- a) Permanent structures include bridges, retaining walls, sound walls, bridge class culverts, sign structures, lighting structures, and system equipment structures, toll gantries and technical shelters.
- b) The parapets and barrier walls on bridges may be built using slip form construction.
- c) The design for the structures, toll gantries and supports for the violation enforcement, Traffic Management System (TMS) and tolling system roadside equipment will be standardized
- d) The design for toll gantries will accommodate the following
 - i. toll and enforcement equipment dead loads and performance requirements
 - ii. natural frequency requirements
- e) The vertical deflection of the toll gantry will not exceed 1.5 inches.
- f) The toll gantry columns and beams will be galvanized steel.

3.15.2 Safety and Acceptance Inspections for Bridges, Culverts, Overhead Sign Structures, and High Mast Light Poles:

- a) Acceptance of a bridge, culvert, overhead sign structure or high mast light pole will require two different inspections by the Department NOVA District Structure and Bridge Section.
- b) A Safety / Inventory Inspection is required prior to opening the structure to public traffic.
 - i. This inspection serves as the initial inspection of the structure. Data gathered includes location, date completed / open to traffic, alignment, description, horizontal / vertical clearances, stream data, structure element description and condition data, and traffic safety features.
 - ii. For the inspection of all structures, the Concessionaire shall ensure that all structural elements are accessible. This requirement may dictate that the Concessionaire provide:
 1. Man-lifts, bucket trucks, under bridge inspection vehicles, boats, or other equipment necessary to inspect the structure.
 2. Plans, personnel, and equipment to implement traffic control measures.
 - iii. The inspection shall be requested through the Department's Project Manager. As-Built drawings will be provided in accordance with the ARCA.
 - iv. In most cases, the structures must be substantially complete (i.e. roadway, curbs, and slopes on the approaches and underneath the structure are already in place) before the inspection will be performed.
- c) A Final Construction Inspection is required prior to accepting the structure. While it is suggested that these two inspections be held simultaneously, that is not a requirement since on some project areas this may not be practical.
 - i. Final Acceptance inspections will be conducted, in accordance with Section 105.15b of the Department's Road and Bridge Specifications, to insure that the completed structure was constructed in accordance with the approved plans, standards, and specifications. Representatives of the Concessionaire shall be in attendance during the inspection. As described for Safety Inspections, the Concessionaire is responsible for providing traffic control measures and access to all structure elements necessary for performing the inspection.
 - ii. This inspection shall be requested through the Department's Project Manager.
 - iii. As-built drawings and shop drawings will be provided in accordance with the ARCA.
 - iv. Upon completion of this inspection a letter will be prepared, from the District Structure and Bridge Engineer to the Project Manager recommending acceptance or specifying any deficiencies, including incomplete work, that must be resolved before the structure is accepted by the Department. If a structure was not accepted, the Concessionaire shall fix the deficiencies and notify the District Structure and Bridge Engineer by submitting a letter, certifying that the deficiencies have been corrected. Depending on the severity of the deficiencies, as judged by the District Structure and Bridge Engineer, another inspection may be performed or acceptance may be immediately recommended

3.16 Maintenance During Construction

- a) The Concessionaire shall be responsible for all maintenance of any travelway and roadside appurtenances that are impacted by work in accordance with section 104.04 as provided in Attachment 1.5d of Road and Bridge Specifications as modified below.
- b) The Road and Bridge Specifications, Section 104.04, is modified to reflect that the Department will maintain all roadways and structures used by public, pedestrian, and vehicular traffic at its expense, until such time as the paved surfaces and roadside appurtenances in a construction segment are significantly impacted by the Concessionaire's

- construction activities. (Significant impacts include pavement marking eradication, traffic lane shifts, surface planing, or similar activities. Placement of temporary concrete barrier and highway trucks hauling materials on the paved surfaces are not considered significant impacts.)
- c) Thereafter, the Concessionaire will maintain the roadway until construction in the segment is complete, and the segment is open to traffic. Maintenance includes performing minor repairs to the roadway surfaces (fixing holes in hard surfaces), but excludes major pavement repairs. The Department will continue to maintain the underlying pavement and major repairs will be the Department's responsibility.
 - d) Where the Concessionaire's MOT Plan requires traffic to operate on intermediate asphalt surfaces, the Concessionaire will be responsible for maintenance of these roadways, including any damage caused by his operations or use by public traffic.
 - e) Drainage will be maintained by the Department until the Concessionaire commences work in the location of the drainage. Thereafter the Concessionaire will maintain the drainage until the roadway in that area is complete and open to traffic.
 - f) The Concessionaire will not be required to perform snow and ice removal for lanes that are open to traffic.
 - g) The Department will assume maintenance responsibilities following the completion and opening to traffic of Construction Segments and New Lanes subject to the provisions of the ARCA.

3.17 As Built Records

- a) The As-Built Documents will be organized and indexed to facilitate easy retrieval of information and be certified by the Concessionaire to reflect the actual condition of the constructed Work.

3.18 Surveys

- a) The Concessionaire will preserve all survey control monuments established by the Department and will notify the Department as soon as it is known that a monument is in a position that will interfere with new construction or with Concessionaire activities. If a monument is disturbed, or cannot be preserved in place, the Contractor shall set the new monument in accordance Attachment 1.5d.

3.19 Security

- a) Subject to the requirements of the ARCA, the Concessionaire shall adhere to the intent of the Department policy on critical infrastructure information and sensitive security information (CII/SSI) to the extent such critical infrastructure information and sensitive security information is directly related to the Concessionaire's performance of its obligations under the ARCA. The Concessionaire shall ensure that relevant CII/SSI is protected and not disclosed to unauthorized persons. The Concessionaire shall ensure that all personnel having access to CII/SSI for the Concessionaire, the contractor and all subcontractors have completed the Non-Disclosure forms in Attachment 3.19.
- b) The Department may request finger print based criminal history background checks on contractors working on specific structures or functions as defined in the Department's Security Policy as a Department Change.
- c) The Concessionaire will review with the Department that information that should be designated as critical infrastructure information or sensitive security information as specific design details become available. Any requirements for security review or other inspections will be mutually agreed with the Department

4 Operation, Maintenance and Tolling Requirements

4.1 General

- a) The Concessionaire is responsible for operation of the HOT lanes including: traffic management, traffic monitoring, electronic toll collection via provision of toll charge transaction information in accordance with the ARCA.
- b) Subject to the requirements of the ARCA the Concessionaire is responsible for maintenance of the HOT lanes, including the Concessionaire's signs located outside the Project Right of Way, the Project HOT-OC and the fiber optic cable linking the HOT-OC to the interagency communications system in accordance with the ARCA. Maintenance responsibilities include: asset management, routine maintenance, Major Maintenance and accident damage repairs, TMS and violation enforcement and tolling system asset renewal as necessary in accordance with the ARCA.
- c) The limits of maintenance activities are defined in the Project Scope Document (Exhibit U)

4.2 Inspection Requirements

4.2.1 General

- a) The Concessionaire shall employ and cause trained and competent personnel to plan and implement a program of inspections of the HOT Lanes, the ETTM Facilities and the ETTM System on the HOT Lanes Project which:
 - i. provides for the continuing safety of the HOT lanes for drivers .
 - ii. Prioritizes defects requiring immediate and urgent attention because they are likely to create a danger or serious inconvenience to drivers.
 - iii. Identifies other defects to be included for repair within the Concessionaire's annually recurring HOT lanes maintenance and repair program (Life Cycle Maintenance Plan).
 - iv. Is responsive to reports or complaints received from stakeholders
 - v. Takes account of Incidents and emergencies affecting the HOT lanes.
 - vi. Monitors the effects of extreme weather conditions.
 - vii. Collates data to monitor performance of the HOT lanes and to establish priorities for future maintenance operations
- b) The Concessionaire shall cause personnel performing inspections of road pavements and structures to be certified as inspectors in accordance with Department Standards and Specifications.
- c) Defects which are subject to the performance requirements in Table 4.5A and the Timeliness Requirements in Table 4.5B in Attachment 4.5 are those that require prompt attention because they represent an immediate or imminent hazard, or there is a risk of immediate or imminent structural deterioration, or there is an immediate or imminent risk of damage to a third party's property or equipment, or there is an immediate or imminent risk of damage to the environment, all to the extent that the Concessionaire can control.

4.2.2 Inspection Frequency

- a) The Concessionaire shall establish inspection procedures and carry out inspections so that:
 - i. All defects that present a hazard or could cause serious driver inconvenience are identified and repaired such that the hazard is mitigated within the timescales set out in the Level of Service Requirements.

- ii. All defects that present a hazard or could cause serious driver inconvenience are identified and remedied within the timescales set out in the Level of Service Requirements.
- iii. All other defects are identified and repaired within the timescales set out in the Level of Service Requirements.
- d) The periods stated in the Level of Service Requirements shall be deemed to be periods from the time the relevant defect was first identified by or notified to the Concessionaire.
- e) The Concessionaire shall investigate reports and complaints on the condition of the HOT lanes received from all sources. The Concessionaire shall record these as O&M Records together with details of all relevant inspections and actions taken in respect of defects, including temporary protective measures and repairs.

4.2.3 Inspection Standards

- a) In performing inspections to identify defects, the Concessionaire shall conform as a minimum to the inspection standards set forth for each asset in the tables referred to in the Level of Service Requirements section below.

4.2.4 Safety Inspections

- a) The record of a safety inspection shall include details of the weather conditions, road surface condition and any unusual features of the method of inspection.

4.2.5 General Inspections

- a) The Concessionaire shall perform general inspections in accordance with the Operations and Maintenance Plan so that the repairs of all defects are included in planned programs of work.
- b) O&M Records in respect of general inspections shall include details of the manner of inspection (e.g. center lane closure or shoulder), the weather conditions and any other unusual features of the inspection.

4.3 Maintenance Requirements

4.3.1 General Obligations

The Concessionaire shall maintain the HOT Lanes and shall take all necessary action to:

- i. Operate and maintain the HOT lanes according to Good Industry Practice appropriate for a highway of the character of the HOT lanes and for use by the traffic which is reasonably expected to use the HOT lanes.
- ii. Minimize delay to drivers.
- iii. Respond to all Incidents and defects as quickly as possible and minimize their adverse effects according to Good Industry Practice.
- iv. Provide users adequate information and forewarning of any events on, or any matters affecting, the smooth operation of the HOT lanes as will enable them to minimize any associated adverse consequences according to Good Industry Practice.
- v. Protect the safety of users, workers or other persons on the HOT lanes, on land adjacent to the HOT lanes or using related transportation facilities to the extent the Concessionaire has or can control., according to Good Industry Practice
- vi. Respect the environment by minimizing the risk of adverse effects on the environment and on the amenity enjoyed by the owners and occupiers of land adjacent to the HOT lanes and to related transportation facilities to the extent the Concessionaire has or can control.
- vii. Minimize the risk of damage or disturbance to or destruction of third party property.

viii. Enable the Department and others with statutory duties or functions in relation to the HOT lanes or related transportation facilities to perform those duties and functions through agreed protocols.

ix. Perform inspections in accordance with Section 4.2.

4.3.2 O&M Data Management

- a) In performance of the O&M Work, the Concessionaire shall implement the data management requirements set forth in Section 1.2.8.

4.4 Operation Requirements

4.4.1 Incident Management

- a) The Concessionaire shall provide equipment/ personnel as necessary to support incident and emergency management operations on the HOT lanes 24 hours a day, 7 days a week. The Concessionaire shall take necessary action using appropriate resources to handle any and all traffic control needs to insure the safety of the incident scene and traveling public and to minimize the potential for pollution of watercourses or groundwater.
- b) The Concessionaire shall liaise with the Department's NRO in developing the incident management plans and when carrying out incident management operations.
- c) The Concessionaire shall cause a trained member of staff to be on standby 24 hours a day seven days a week to coordinate the Concessionaire's response to any incident or emergency.
- d) Where structural damage to HOT lane structures is suspected, the Concessionaire shall ensure that qualified personnel meeting qualification requirements in Article 650.307 of the National Bridge Inspections Standards and/or suitably qualified bridge/structural engineer, licensed as a Professional Engineer (P.E.) is available to evaluate the structure. Also, a suitably qualified bridge/structural engineer, holding a P.E. license, shall be available to advise on temporary repairs and/or shoring that may be needed to provide safe clearance of the incident or emergency. Subject to the requirements of the ARCA, the Concessionaire shall not remove any vehicle or other item that may assist the incident or emergency investigation until authorized to do so by the relevant law enforcement agencies.
- e) The Concessionaire shall not reopen any area of the HOT lanes which has been closed, until all appropriate safety and traffic management measures have been completed.
- f) The Concessionaire must ensure that procedures are in place for: public/agency notifications, incident management, ensuring the safety of motorists, handling of hazardous waste, coordination with the Department, police and other emergency personnel with respect to emergency incidents and occurrences.

4.4.2 Traffic Management

- a) Incidents are to be detected and classified within 5 minutes of occurrence 95% of the time within areas monitored by the video based AID system.
- b) Traffic Management Messages that contribute to the safety of motorists and road workers are to be applied within 5 minutes of the detection and classification of an incident or the identification of deteriorated road conditions.
- c) Appropriate, relevant and up-to-date messages are to be displayed at all times on DMS.
- d) Incident information is to be passed to the Department within 5 minutes of incident detection.

4.4.3 Driver Information (HOT lanes)

- a) ISA for Toll and Driver Information for DMS (each sign) to be at least 99.9%. ISA for Traffic Management DMS to be at least 99.9%.

4.4.4 Waste Disposal; Use of Hazardous Materials

- (a) Subject to the requirements of the ARCA the Concessionaire shall:
- i. dispose of, or cause the disposal of, all waste, residue, debris, materials and supplies (including paints, herbicides and chemicals), grass and foliage clippings, dead animals and all other waste materials produced or generated by the O&M Contractor.
 - ii. use, contain, store and dispose of all Hazardous Materials employed in connection with its activities during the Operating Period.
 - iii. be responsible, subject to direction from emergency responders taking responsible charge of an incident, for the clean up, containment, removal, transportation, storage or disposal of any hazardous material spills or releases on the HOT lanes.

4.5 Level of Service Requirements

4.5.1 General

- a) The baseline service levels for routine maintenance will be equal to that of other similar highways in the Commonwealth of Virginia. The Baseline Level of Service requirements are set out in Attachment 4.5..
- b) Concessionaire shall set forth as part of the Operations and Maintenance Plan, reviewed and updated as necessary, a comprehensive Code of Maintenance Standards document. This shall be based on performance requirements table consistent with Attachment 4.5 – Performance Requirements Table Baseline and Good Industry Practice.
- c) The Performance Requirements Table shall set forth the following information:

Heading in Attachment 4.5 – Performance Requirements Table Baseline	Contents of Concessionaire’s submitted Performance Requirements Table
Asset	As Attachment 4.5
Performance Requirement	As Attachment 4.5
Inspection / Measurement Method	Subject to proposal amendment by Concessionaire as part of annual review of Operations and Maintenance Plan
Target	As Attachment 4.5 subject to future changes required mutually agreed with the Department as Good Industry Practice dictates on similar highways in the Commonwealth of Virginia, and subject to proposal amendment by Concessionaire as part of annual review of Operations and Maintenance Plan

- d) In its submittals of the Performance Requirements Table, the Concessionaire shall propose such amendments to the inspection and measurement methods and targets to achieve continuous improvement in industry practice.
- e) The Concessionaire will be responsible for measuring and recording performance across each item in Attachment 4.5 the Performance Requirements Table.
- f) Performance will be reported quarterly in a format to be agreed between Concessionaire and the Department before the HOT lanes Service Commencement Date. Performance shall also be summarized in an end of year report as outlined in Section 1.11.

4.6 Tolling Requirements

4.6.1 General

- a) The Tolling System shall be operated and maintained by the Concessionaire to fulfill his obligations under the Electronic Toll Collection Agreement such that the performance requirements are met.

4.6.2 Performance Requirements

- a) Roadside Equipment shall have an In Service Availability of at least 99%. This shall exclude scheduled down time and loss of power outside Concessionaire control.
- b) The Tolling System shall have an In-Service Availability of at least 99.9% of time, excluding scheduled down time and loss of power.
- c) At least 99.8% of transponder Records shall be correct , i.e the data supplied is complete and relates correctly to the transponder detected for properly fitted and operating transponders, and excluding non normal operation due to signal attenuation due to a metallic wind screen or similar.
- d) At least 99.8% of payment claim Records shall be correct, i.e the data supplied is complete and relates correctly to the payment due for the trip, the displayed prices and the transponder to which it relates.
- e) Records shall be transmitted to the Department in the IAG specification format, or as otherwise agreed between the Department and the Concessionaire, except where VES manual quality control checks have not been completed.
- f) Tag status files are to be loaded and distributed through the system and utilized for each transaction to ensure images are recorded for the correct vehicles. This should be completed within 1 hour of receipt from the Department, (in accordance with the ETC Agreement) 99% of the time subject to receipt of a confirmed accurate tag status file from the Department.
- g) The tag number captured from a tag shall be recorded without error at least 99.99999 percent of the time (no more than one error in 10 million). In addition, no more than one such error in ten (one error in 100 million) shall result in the wrong tag number becoming associated with the capture. This is subject to the transponder supplier performance requirements.
- h) In the event the Department receives two or more representations from customers in a calendar month claiming to have been charged a HOT Lane toll, from the same toll point, while using the GP lanes the concessionaire will present to the Department a management plan to investigate system performance. The Department and Concessionaire agree that the customer confidence in the tolling system is essential and that misreads from the GP lanes must be addressed as a matter of urgency
- i) Accuracy for correctly assigning the transponder to the correct vehicle and therefore license plate, to be 99.9% for properly fitted and operating transponders, and excluding non normal operation due to signal attenuation due to a metallic wind screen or similar.

4.6.3 Transactions

- a) The Department (in accordance with the ETC Agreement) will supply Tag status information which should be loaded and distributed through the system and utilized for each transaction to ensure images are recorded for the correct vehicles. The Department reserves the right to reject duplicate transactions.
- b) Upon notification that the Concessionaire has requested payment from an account which the Department has previously informed the Concessionaire is invalid and/or no longer in good standing the Concessionaire must reconcile or audit the data transmission within three Business Day to identify all other instances that may have occurred.

- c) Upon notification of a duplicate transaction or an incorrect toll amount, the Concessionaire must reconcile or audit the data transmission within three Business Days to identify any and all other duplicate transactions or incorrect toll charges that may have occurred

4.6.4 Roadside Equipment Support and Maintenance

- a) The Concessionaire shall support and maintain all roadside equipment and infrastructure installed on the HOT lanes, related to HOT Lanes Operations.
- b) The Department shall support and maintain all roadside equipment and infrastructure on the GP lanes, all other roadways and overpasses, including signalized intersections.

4.6.5 IT Support and Maintenance

- a) The Concessionaire shall carry out IT service management in accordance with Good Industry Practice.

4.6.6 Anti-virus Scanning and Protection

- a) The Concessionaire shall maintain anti-virus and protection procedures to protect the Tolling System from viruses and other destructive devices, and to manage the impact of virus attacks including transmission to the Department System or other Department or Third Party systems
- b) Any infection by computer virus or similar destructive devices shall be immediately notified to the Department upon identification.

4.6.7 Interfaces

- a) The Concessionaire shall continuously monitor all interfaces for the Tolling System. The monitoring should include availability, throughput, performance, buffer usage, queue lengths, hardware status, system alarms and warnings, and any other diagnostic data provided by the Concessionaire's implementation of the interfaces.

4.6.8 System Back-up and Recovery

- a) The Concessionaire shall provide data security for the Tolling System. Data security may include, but not be limited to:
- Backup of all software and configuration following each release of, or change to, the system, including any Disaster Recovery site;
 - Daily back-up of all new/changed data held on the Tolling System;
 - Removal of the media used for the daily back-up to a secure off-site location within 24 hours (or other agreed timeframe); and
 - Storage of one month of the data back-ups in a secure off-site location.
- b) Backups shall not affect the Tolling System's ability to capture, store or process detection data.

4.6.9 System Failure

- a) The Concessionaire shall notify the Department without delay on it becoming aware of any event of or the likely event of any system failure that results in a critical element of the Tolling System not functioning or results in or is likely to result in an unacceptable impact on the public or on the Department or a Third Party
- b) The Department shall notify the Concessionaire without delay on it becoming aware of any event or of the likely event of any system failure that results in a critical element of the Department system not functioning or results in or is likely to result in an unacceptable impact on the public or on the Concessionaire or a Third Party
- c) Where the relevant system failure affects or may affect, a Third Party or the Department or its agents, the Concessionaire shall give the Department all necessary co-operation in resolving the

relevant system failure by co-operating fully and expeditiously with the Third Party or the Department or its agents, as appropriate, to resolve the same.

- d) Where the relevant system failure was caused by the Department or its agents, the Department shall give the Concessionaire all necessary co-operation in resolving the relevant system failure, by co-operating fully and expeditiously with the Third Party or Concessionaire, as appropriate, to resolve the same..

4.6.10 Reporting

- a) The Concessionaire shall report on the performance achieved against each of the performance requirements in each reporting period in accordance with the ARCA.

5 Civil Rights

- a) Goals for DBE and Swam utilization and requirements have been established for this Project in accordance with Section 11.03 of the ARCA.
- b) This section sets out the civil rights Project guidelines and requirements for the Route 495 HOT Lanes in Virginia Project.

5.1 Regional Council and Outreach Participation

- a) A Civil Rights (CR) Program Office will be established under the General Engineering Contract (GEC) for the regional mega projects oversight. The Office will be managed by a CR Program Manager (CR Manager) who receives direction from the Department Project Manager and the Northern Virginia District Civil Rights Manager. The Manager and the Office are responsible for actively encouraging and helping to fulfill employment and business opportunities for the regional mega projects under that contract. The Manager will oversee the Department's DBE technical/engineering consultant and administrative/clerical support staff.
- b) This Office will be responsible for setting up
 - A Council comprised of government stakeholders and regional mega prime contractors.
 - A Community Resource Board of community leaders plus the regional mega prime contractors and government stakeholders.
 - Outreach events for both business opportunities and employment opportunities on behalf of the consultants/contractors involved in the Project.
 - Compiling or coordinating related employment, business, or DBE payment data as needed or requested, especially if required based on audits.
 - Produce related brochures in English and other languages for the public as needed.
- c) The Route 495 HOT Lanes project has been designated as a participating regional mega project. Therefore, the appropriate representative(s) of the Concessionaire shall participate in the designated Council, Board, and any other joint CR activities or events.
- d) The Concessionaire shall participate in VDOT's annual Regional Careers Fair and shall encourage its contractors and sub-contractors to also participate.

5.2 Governing Required Contract Language

- a) The documents listed below are included in Attachment 5 to the Technical Requirements. Forms designated with an asterisk (*) must be physically incorporated into any and all subcontracts and purchase orders related to the Work.
 - i. General EEO, DBE, and Labor contract requirements:
 - FHWA 1273* (including Predetermined Minimum Wages for the Project)
 - Executive Order 11246* (Notice Of Requirement For Affirmative Action To Ensure Equal Employment Opportunity)
 - ii. DBE/SWaM:
 - PPTA - Design-Build Amendment to Special Provision for Section 110.04 of the Road and Bridge Specifications
 - Form C-111 (Minimum DBE Requirements)
 - Form C-112 (Certification Of Binding Agreement)
 - Form C-48 (Subcontractor/Supplier Solicitation And Utilization Form)
 - Form C-49 (DBE Good Faith Efforts Documentation)
 - iii. On-the-Job Training:
 - Special Provision Copied Note For Section 518 of the Road and Bridge Specifications

5.3 Design Requirements and Submittals

- a) Payments made to DBE and SWaM consultants must be submitted on form C-63 (DBE Activity Report) on a quarterly basis. Form C-63 and submittal information for the form is provided in the Department's Construction Directive Memorandum CD-2007-6 included in Attachment 5.

5.4 Construction Requirements and Submittals

5.4.1 EEO Contract Compliance

- a) The following forms and associated submittal information are included in Attachment 5 and are required from the D-B Contractor and its subcontractors (including haulers and suppliers as applicable).
 - Form C-64 (Company Employment)
 - Letter Designating EEO Officer
 - Semi-annual Minutes of an EEO Meeting
 - Form C-57 (Project Employment)
- b) The D-B Contractor and its subcontractors are subject to formal Department EEO Contractor Compliance Reviews at least annually.

5.4.2 Labor Compliance

- Weekly payrolls from the D-B Contractor and its subcontractors and hauliers as applicable are required.
- Form C-28 (Basic Hourly Rates paid by Contractor) and submittal information for the form is included in Attachment 5.
- Employees may be subject to interviews by the Department's Inspectors and other authorized personnel.
- Form C-56 (Statement of Compliance) and instructions on submittal for the form are included in Attachment 5

5.4.3 On-the-Job Training Compliance

- a) The Project has been assigned a goal of 32 trainees over the duration of the construction Work period, as indicated in Special Provision Copied Note For Section 518 of the Road and Bridge Specifications.
- b) Upon D-B Contractor notification of intent to assign employees into an approved program, the the Department's Civil Rights office will provide form C-65 (Trainee Enrollment Form – OJT Training), which initiates the training process. Salary increases for the designated trainee(s) shall be negotiated and agreed between the Concessionaire and the Department in accordance with the minimum requirements of the relevant federal regulations.
- c) Trainees may be current employees, newly hired employees or individuals hired from the BOWD Center. Trainees may not have received prior training in the classification planned for the training opportunity. A journeyman in that classification must be on site and be available to assist with the training. A Department authorized inspector must be present at the time of initiating the training and must be in agreement of the selected candidate.
- d) Form C-67 (weekly trainee report) and submittal information for the form is included in Attachment 5. The form is required and must have concurrence from the Department authorized inspector as to the number of hours of training received for that week.
- e) The Department /VTCA/FHWA approved training manual provides guidance on the On-the-Job-Training (OJT)
- f) The Department shall pay the D-B Contractor the applicable payment(s) for each trainee as defined in Section 518.03 of the Road and Bridge Specifications..

5.4.4 Disadvantaged Business Enterprise Compliance

- a) DBE subcontractors, suppliers, manufacturers and haulers must be listed and submitted on Form C-111, indicating the task(s) assigned and the approximate dollar value of the planned work. See PPTA D-B Amendment to Special Provision for Section 110.04.
- b) Payments made to DBE firms must be submitted on form C-63 on a quarterly basis. Form C-63 and submittal information for the form is provided in the Department's Construction Directive Memorandum CD-2007-6 included in Attachment 5.
- c) All DBE firms are subject to formal DBE contract compliance reviews at least once during active participation on the project.
- d) PPTA D-B Amendment to Special Provision for Section 110.04 provides guidance on removal of a DBE firm from the contract or for substituting another firm for all or portions of items of work designated to be performed by a DBE firm. Advance approval must be obtained from the district Civil Rights office.

5.4.5 Small, Women, and Minority Business Compliance

- a) SWaM subcontractors, suppliers, manufacturers and haulers should be listed and submitted on Form C-111, indicating the task(s) assigned and the approximate dollar value of the planned work. See PPTA D-B Amendment to Special Provision for Section 110.04.
- b) Payments made to SWaM firms must be submitted on form C-63 on a quarterly basis in order to receive credit. See Construction Memorandum CD-2007-6.

ROUTE 495 HOT LANES IN VIRGINIA PROJECT

ATTACHMENTS TO EXHIBIT N – TECHNICAL REQUIREMENTS

- Attachment 1.1 – Definitions and Abbreviations
- Attachment 1.3 – Project Development Plans
- Attachment 1.5A – Standards and Specifications
- Attachment 1.5B – Design Criteria
- Attachment 1.5C - Design Exceptions and Waivers
- Attachment 1.5D - Division I Amendments to the Standard Specifications
- Attachment 1.6A - Right of Way Activity Description
- Attachment 1.6B - Right of Way Acquisition Schedule
- Attachment 1.6C - Easement Acquisition Schedule
- Attachment 1.7 - Utility Relocation Schedule
- Attachment 1.8 - Rustication Details
- Attachment 3.1A - Bike/Ped Scope Matrix
- Attachment 3.1B - Phase VIII Deferred Items Memo
- Attachment 3.5 - Interchange Justification Reports
- Attachment 3.6 - Pavement I-495 Widening and HOT Lanes Notes
- Attachment 3.14 – Interface Specification
- Attachment 3.19 - Non-Disclosure Agreement
- Attachment 4.5 – Performance Requirements Baseline Table
- Attachment 5 – Civil Rights Documentation

Attachment 1.1 - Technical Requirements Definitions and Abbreviations

Definitions and Abbreviations used in the Technical Requirements

1 Abbreviations

AFC	Approved For Construction
CPM	Critical Path Method
TIA	Time Impact Analysis
WBS	Work Breakdown Structure
GEC	General Engineering Consultant
D-B	Design-Build
O-M	Operations and Maintenance
EDMS	Electronic Document Management System
PDP	Project Development Plan
W&OD Trail	Washington and Old Dominion Trail
ISO 9001	The International Standards Organization's Quality Management Systems Requirements

2 Definitions

Approved For Construction (AFC)	Submission documents as defined in Section 1. of the Technical Requirements
As-Built Schedule	The schedule that records the actual time taken, in the construction of the Works, for each activity on the Work Breakdown Schedule.
Capacity	The maximum input and output volumes, sizing requirements, network bandwidth, data storage and transfer handling capacity of the Tolling System and TMS.
Contract Schedules	The Schedules as defined in Section 1.4 of the Technical requirements
Critical Path (Method)	Sequence of critical design and construction activities that determine the shortest time possible to complete the project. Any delay of an activity on the critical path directly impacts the planned project completion date.
Design Exceptions	Exception required from the Department and FHWA when design criteria do not meet AASHTO minimal design requirements.
Design Waivers	Waiver required from the Department when design criteria meet or exceed AASHTO minimal design but fall short of the Department's minimal design requirements.

Attachments to Exhibit N – Technical Requirements

Attachment 1.1

Disaster Recovery	The continued operation of the Tolling System and TMS in the event of an unforeseen or uncontrolled incident.
Free-flow	Conditions where vehicular traffic can maintain generally consistent speeds without experiencing undue delay or breakdown in flow.
HOV Violator Alert	The generation of an alert provided for the Law Enforcement Officer when a transponder is present in HOV mode <u>and</u> there are less than three occupants detected.
Incident	An event that occurs that causes a disruption to traffic flow on the HOT or GP lanes
In-Service Availability (ISA)	The percentage of time that the System or Device is available to perform the required functionality to the minimum level of performance specified when used in service. $ISA \% = \text{hours available} / \text{hours in service} \times 100$
Interface Specification	The suite of specifications, as updated from time to time, used to specify the interface between the Tolling System, the Traffic Management System and the VDOT System.
Monthly Progress Schedule	See Contract Schedules
Normal Conditions	Conditions either free of incidents or with minor events under which pricing can be used to maintain free-flow
Quality Management Plan	The quality management plan defined in Section 1.2.3
Project Development Plans	The management plans described in Section 1.3
Project Enhancement Works	Works required to complete Project Enhancements
Proposed Baseline Schedule	See Contract Schedules
Records	data messages/files sent to the relevant system, including where applicable the Department System.
Roadside Equipment	Equipment operated and maintained by the Concessionaire installed external to the HOT-OC including the HOT lanes communications infrastructure.
Third Party	means any other organization or agency participating in toll collection, enforcement or traveler information related to the HOT lanes.
Toll Section	A HOT lanes section for which a specific toll applies.
Tolling System	The system to be designed, supplied, operated and maintained by the Concessionaire for the purposes of identifying vehicles, determining the toll levels and exchanging relevant data.
Traffic Management	VDOT's traffic operations center and includes its advanced traffic

Attachments to Exhibit N – Technical Requirements

Attachment 1.1

Center (TMC)	management system to which the TMS will interface.
Traffic Management System (TMS)	The system to be designed, supplied, operated and maintained by the Concessionaire for the purposes of managing traffic on the HOT lanes, providing information to users and exchanging relevant data, including with the VDOT System.
Transponder Detection Equipment	Equipment mounted on toll gantries or other structures capable of reading E-ZPass compliant [and any successor to E-ZPass utilized on State Highways] transponders.
Transponder Transaction Performance	The percentage of vehicles with transponders that are correctly identified by the Tolling System.
Updated Baseline Schedules	See Contract Schedules
VDOT System	Those systems operated and maintained by VDOT for the purposes of toll collection, customer queries and complaints services, reporting and reconciliation and customer services, and traffic management.
Vehicle Enforcement System (VES)	Equipment mounted on gantries or other structures for the purposes of identifying toll violators to a standard necessary for enforcement to be undertaken.
Vehicle Occupancy Detection (VOD)	Equipment mounted on toll gantries or other structures to assist with the identification of HOV occupancy.
Violator	A vehicle that has not paid the toll and is not exempt; or has indicated HOV status and does not meet HOV occupancy requirements.

Attachment 1.3 – Project Development Plans

Project Development Plans

1.1 General

- a) For each Project Development Plan developed, the Concessionaire shall ensure that:
 - i. the scope of the plan is stated;
 - ii. plans are consistent with other Project Development Plans;
 - iii. the goals and objectives are stated;
 - iv. the requirements for submission, review and acceptance are stated;
 - v. the plan identifies individuals responsible for ensuring that required activities are planned, implemented and controlled, and their progress monitored;
 - vi. documents and data are controlled and responsibility for review and approval assigned
 - vii. applicable codes, standards, specifications, quality characteristics and regulatory requirements, are stated;
 - viii. changes to designs or processes will be controlled (if applicable);
 - ix. the requirements for reviews for adequacy and effectiveness of the plan are stated and flow through to PDP revision procedures;

1.2 Concessionaire Management Plan

- a) The Concessionaire Management Plan is an umbrella document that describes the Concessionaire's managerial approach, strategy, and quality procedures to design, build, and maintain the Project and achieve all requirements of the Project. The Concessionaire Management Plan shall include an organization chart outlining the basic structure of the Concessionaire's Project organization including the design, construction, operations and maintenance sub-organizations and a description of the roles, responsibilities, and Work to be accomplished by each member of the management team and each sub-organization, including identified Subcontractors and suppliers, DBEs and SWAMs.
- b) The Concessionaire Management Plan shall describe how the Project Development Plans fit within the overall quality management system, responsibilities for developing and maintaining the plans and the schedule for implementation.
- c) The Concessionaire Management Plan shall address the Concessionaire's procedures for preparation of amendments and submission of amendments to any part of the PDP.

1.3 DBE/SWaM Plan (Work Period)

- a) The DBE Plan will define the approach to meet the DBE participation goal for the construction phase and will address:
- b) the proposed method to achieve the DBE participation goal or demonstrate a good faith effort to meet the goal
- c) a proactive DBE outreach program for DBE participation
- d) the reporting requirements to VDOT regarding DBE participation

1.4 Health, Safety and Security Plan

- a) The Health, Safety and Security Plan will define the health, safety and security activities required during the design and construction of the Project and will address:
- i. the health and safety policy for the Project
 - ii. the health and safety goals for the Project
 - iii. the organization and responsibilities of the various positions related to health, safety and security
 - iv. construction occupational health and safety
 - v. the Project health and safety rules and regulations
 - vi. site security

1.5 Environmental Management Plan

- a) The Environmental Management Plan will define the environmental activities required during the design and construction of the Project and will address:
- i. the environmental policy for the Project
 - ii. the environmental goals for the Project
 - iii. the organization and responsibilities of the various positions related to environmental management
 - iv. compliance with the environmental requirements and regulations
 - v. the Project environmental rules and regulations

1.6 Quality Management System Plans

- b) The Quality Management System Plans will define the quality management systems for the construction and O&M respectively and will:
- i. demonstrate how the system is consistent with ISO 9001 and will lead to continuing improvement
 - ii. define auditing responsibilities and procedures
 - iii. describe how the relevant requirements of the contract will be met
 - iv. describe the quality organization and responsibilities
 - v. the use of the Independent Engineer to provide independent quality assurance for selected portions of the Work
 - vi. require any future contractor employed by the Concessionaire for substantial design, construction or maintenance activities to develop, implement and maintain a quality management system

1.7 Document Management Plan

- a) The Document Management Plan will define the document management approach and will address:
- i. the document management system
 - ii. document management procedures
 - iii. requirements for records retention

1.8 Design Management Plan

- b) The Design Management Plan will define the design approach and activities for the design of the Project and will address:
- i. the design organization and responsibilities
 - ii. the design basis (e.g. design criteria, design standards and specifications)
 - iii. work zone and worker safety review during design
 - iv. quality
 - v. the breakdown of the Project design into design packages
 - vi. the process the Engineering Consultant will use to design and seal each design package
 - vii. the system engineering process for the design of the systems components
 - viii. the proposed strategy for integrating the facilities and systems component into the design process
 - ix. design deliverables
 - x. design control
 - xi. the design review process both informal and formal
 - xii. the process by which the Concessionaire's construction group, VDOT and the IE will be involved in the design review process

1.9 ROW Acquisition Plan

- a) The ROW Acquisition Plan will define the approach to acquisition of the project ROW and will address:
- i. the Roles and responsibilities of the Concessionaire and VDOT for ROW acquisition
 - ii. the ROW acquisition process and procedures
 - iii. applicable guidelines, laws and regulations
 - iv. the ROW acquisition services
 - v. coordination with VDOT and property owners
 - vi. ROW Acquisition costs management
 - vii. the use of RUMS
 - viii. the utility acquisition and relocation schedule
 - ix. Environmental Concerns

1.10 Utilities Plan

- b) The Utilities Plan will define the utility coordination activities during the design and construction of the Project and will address:
- i. the Roles and responsibilities of the Concessionaire and VDOT
 - ii. the utility relocation process
 - iii. applicable guidelines, laws and regulation

Attachment to Exhibit N – Technical Requirements

Attachment 1.3

- iv. the application of prior rights, relocation pro rata cost and Tax Effective Recovery Factor (TERF)
- v. utility agreements including VDOT Master Utility Agreement (MUA) and/or development of Project specific utility relocation agreements
- vi. wet utility relocations
- vii. dry utility relocations
- viii. the Coordination with VDOT, utilities and subcontractors
- ix. the resolution of utility conflicts
- x. the development and maintenance of a Utility Tracking Report

1.11 Construction Management Plan

- a) The Construction Plan will define the construction approach and activities for the construction of the Project and will address:
 - i. the construction organization and responsibilities
 - ii. safety during construction
 - iii. security
 - iv. environmental management
 - v. quality
 - vi. the breakdown of the Project construction into construction areas/segments
 - vii. the general construction sequence
 - viii. site temporary facilities and storage areas
 - ix. field equipment and materials management
 - x. rigging
 - xi. industrial relation
 - xii. as-built documents

1.12 Transportation Management Plan

- b) VDOT and the Concessionaire will jointly develop a Transportation Management Plan (TMP) for the project as defined in the ARCA. The Concessionaire's contribution to the TMP will be extracted from the MOT Plan and PIP as defined below.

1.12.1 Maintenance of Traffic (MOT) Plan

- a) The Concessionaire will develop a Maintenance of Traffic (MOT) Plan for construction activities that will:
 - i. include construction phasing plans with maps and narratives
 - ii. describe an emergency access plan for emergency vehicles and public/semi-public facilities such as hospitals, fire stations and police stations
 - iii. Incident management liaison with VDOT
 - iv. conform to the Virginia Work Area Protection Manual
 - v. describe the approach to developing detailed Traffic Control Plans (TCPs)
 - vi. describe the public information approach

Attachment to Exhibit N – Technical Requirements

Attachment 1.3

1.12.2 Communication, Public Outreach and Community Education Plan

- a) The Concessionaire will deliver an integrated Communication, Public Outreach and Community Education Plan that:
 - i. Provides an effective framework for communication between the Concessionaire and stakeholders
 - ii. Effectively engages the community in the design, construction and operation of the Project to minimize negative impacts, and maximize positive outcomes
 - iii. Builds a strong and enduring relationship with stakeholders and the community within the I-495 Capital Beltway HOT lanes corridor over the life of the Project
 - iv. Identifies and manages risks associated with the Project
 - v. Develops a strong and enduring brand relationship between the community, I-495 Capital Beltway drivers and the owners and operators of the Project
 - vi. Maximizes public awareness of features and benefits of the I-495 Capital Beltway HOT lanes
 - vii. Ensures the public understands how best to use the HOT lanes, and the requirements for travel on the system
 - viii. will be consistent with VDOT goals for the project
 - ix. provides a detailed outline of communication tools and strategies to be employed during each phase of the Project development, delivery and operation, including:
 1. Project branding
 2. Market Research and Analysis
 3. Media Outreach
 4. Stakeholder Outreach and Information
 5. VDOT Interface and Liaison
 6. Project Communication Team
 7. Design Build – Public Information and Involvement
 8. Pre - Operations - Public Education and Awareness
 - x. address the development of a crisis communications plan and procedures, addressing coordination with VDOT and responsiveness to the media.

1.12.3 Public Information Plan (PIP) (Construction Works)

- a) The PIP will fit within the context of the broader Communication, Public Outreach and Community Education Plan and will address:
 - i. The identification of stakeholders and the outreach tactics that will be used to engage them
 - ii. Training of relevant Project personnel in crisis communications, media relations and community outreach techniques
 - iii. Development of a Community Engagement Program, outlining the approach to consulting with the community about design and construction matters, including:
 1. Mechanism to engage the community in applicable design and construction activities

Attachment to Exhibit N – Technical Requirements

Attachment 1.3

2. Measures to communicate with and mitigate the impacts of construction on directly impacted properties (dust, noise, access constraints, utility impacts etc)
3. Hosting Community Information Meetings to provide updated Project information as required
4. Education and awareness related to public safety surrounding the work zone
- iv. The approach to communication with the public about construction activities, including:
 1. Notification of forthcoming construction activity to surrounding homes and businesses
 2. Commitment of key Project staff to participate in community outreach activities such as public meetings and media interviews
 3. Establishment and maintenance of a Project hotline to manage public inquiries and concerns
 4. Facilitation and maintenance of Project signage, including information to pedestrians and cyclists, and Project branding and information
- v. Provision of information to motorists and stakeholders to facilitate the Maintenance of Traffic (MOT) during construction. This will include:
 1. Packaging of all MOT information, such as anticipated delays and lane closures, for provision to the Project Communication Team on a regular basis, to facilitate communication to the media, stakeholders and the broader community
 2. Communication with direct impact area property owners
 3. Communication with elected officials and other key stakeholders
 4. Coordination with local agencies
 5. Notification program to inform motorists and the broader community about expected traffic changes/delays (such as on-road signage, SMS and email alerts)
 6. Information to stakeholders about events in the area that may be affected by construction activities.
- i. Coordination of construction-related information for inclusion on all Project communication material as developed under the Communication, Marketing and Public Outreach Plan (including web, bulletins).
- ii. Management of construction site tours, including stakeholder events.
- iii. Recording of Project progress through photography.
- iv. Packaging and timely delivery to VDOT of information on expected, major traffic changes for inclusion in VDOT public advertising programs. VDOT will manage and execute all advertising related to construction activities, such as significant lane closures and anticipated delays.

1.13 Operations and Maintenance Plan

- b) The Operations and Maintenance Plan will identify the methods, systems and procedures whereby the Concessionaire will comply with the operation and maintenance requirements of the Agreement, including;

Attachment to Exhibit N – Technical Requirements

Attachment 1.3

- i. organization structure including key operations and maintenance personnel
- ii. key suppliers and subcontractors
- iii. operating procedures
- iv. interface with incident management
- v. inspection methods and inspection schedule
- vi. identification and scheduling of routine maintenance

1.14 Life Cycle Maintenance Plan

- c) The Life Cycle Maintenance Plan will be developed in accordance with the ARCA.

Attachment to Exhibit N – Technical Requirements
Attachment 1.3

2 Submission Timetable

- a) Project Development Plans are to be developed to Implementation status in accordance with the following table, or earlier if required by the Concessionaire.

	Status of Plan at Closing Date (Outline or Implementation)	PDP submission date for review by VDOT
Concessionaire Management Plan	Outline	Closing Date +30 Days
DBE Plan (Work Period)	Outline	Closing Date +90D
Health, Safety and Security Plan	Outline	60 days following Closing Date
Environmental Management Plan	Outline	60 days prior to Commencement of Construction Work
Quality Management System Plan (Construction Work)	Implementation	
Quality Management System Plan (Operations and Maintenance)	N/A	3 months prior to Service Commencement
Document Management Plan	Outline including interim measures	Closing Date +30D
Design Management Plan	Outline including implementation of Design Quality Management Plan	Closing Date +30D
ROW Acquisition Plan	Outline	30 days prior to Design Public Hearing
Utilities Plan	Outline	60 days prior to Utility Field Inspection
Construction Management Plan	Outline	60 days prior to Commencement of Construction Work
Transportation Management Plan	Outline	Closing Date + 30D
Maintenance of Traffic (MOT) Plan	Implementation	
Public Information Plan (Construction Works)	Implementation	
Communications, Public Outreach and Community Education Plan	Implementation	
Operations and Maintenance Plan	Outline	3 months prior to Service Commencement
Life Cycle Maintenance Plan	N/A	In accordance with ARCA

3 Concessionaire's Project Development Plans

See Attached document

The following comment and resolution sheets are VDOT's initial comments on the PDP's provided by the Concessionaire.

The Concessionaire in developing the final PDP's in accordance with the Technical Requirements will take the following comments into consideration

VIRGINIA DEPARTMENT OF TRANSPORTATION 495 HOT LANES PROJECT REVIEW COMMENT AND RESOLUTION SHEET				CODES: A. ACCEPT COMMENT—WILL BE CORRECTED, ADDED, OR CLARIFIED. B. DESIGNER WILL EVALUATE. C. DELETE COMMENT D. DEPARTMENT TO EVALUATE.	
VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): PB	DATE: 12/03/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: CONSTRUCTION MANAGEMENT	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
1.	PDP 10	The proposed outline appears reasonably comprehensive. It misses to address such important features as public affairs, community outreach, incident management. I have shown in track mode what I think would be relevant adjustments to the proposed outline.			
2.		The Construction Management Plan (Exhibit J) outline looks to be pretty thorough. At a quick glance the only things I would consider adding would be: <ul style="list-style-type: none"> 1. Construction Schedule Monitoring 2. Maintenance of Traffic 3. DBE/Civil Rights Monitoring & Compliance 4. Environmental Monitoring & Compliance 			
3.		See Attached MarkUps			
4.					
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Fluor-Lane, LLC

The following comment and resolution sheets are VDOT's initial comments on the PDP's provided by the Concessionaire.

The Concessionaire in developing the final PDP's in accordance with the Technical Requirements will take the following comments into consideration

CONSTRUCTION MANAGEMENT PLAN OUTLINE

Revision	Date	Revision Description	Prepared By	Approved By
0	15-Nov-2007	Issued for Project Development Plans	J. Taylor	

Fluor-Lane, LLC

1.0 PURPOSE AND OBJECTIVE

1.1 PURPOSE

1.2 OBJECTIVES

2.0 DEFINITIONS, ACRONYMS, AND REFERENCES

3.0 GENERAL DESCRIPTION OF CONSTRUCTION APPROACH

3.1 DEFINITION OF CONSTRUCTION AREAS

3.2 SEQUENCE OF WORK ACTIVITIES

4.0 ORGANIZATION AND RESPONSIBILITIES

4.1 ORGANIZATION

4.2 RESPONSIBILITIES

4.3 FUNCTIONAL RESPONSIBILITIES MATRIX (identifies between owner & GEC as to who does what)

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Fluor-Lane, LLC

5.0 FIELD OFFICE WORK AND CONSTRUCTION PROCESSES

Deleted: CONSTRUCTION REFERENCE

5.1 CONSTRUCTION IMPLEMENTATION

5.2 SUBCONTRACT MANAGEMENT

5.3 LABOR REQUISITION & CIVIL RIGHTS

5.4 SITE ACCESS, VEHICLES, PARKING

5.5 CONSTRUCTION EQUIPMENT & TOOLS

5.6 MATERIALS CLEARANCE & ACCEPTANCE

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5.7 ISSUES RESOLUTION

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5.8 CONSTRUCTION ENGINEERING

5.9 DOCUMENT CONTROL

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5.10 REQUEST FOR INFORMATION

5.11 SITE PREPARATION

5.12 SUBGRADE/SUPPORT FOUNDATION

5.13 RIGGING (OR CAN DO AWAY GIVEN CHAPTER 6)

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5.9 STRUCTURAL CONCRETE

5.10 CONSTRUCTION PILING PROCESS

5.11 ARCHITECTURAL

5.12 EQUIPMENT

5.13 CONSTRUCTION - ELECTRICAL

5.14 CABLE PULL & TERMINATION - SPECIAL TRAINING

5.15 SYSTEM TURNOVER

5.16 DEMOBILIZATION PROJECT CLOSEOUT

6.0 FIELD RIGGING PROCEDURES

6.1 FIELD RIGGING PRACTICES

Fluor-Lane, LLC

- 6.2 ADMINISTRATIVE PRACTICE FOR RIGGING
- 6.3 SITE SPECIFIC RIGGING SPECIFICATION - STANDARD COPY
- 6.4 CRANE INSPECTION CHECKLIST - FREQUENT INSPECTION (MONTHLY)
- 6.5 CRANE INSPECTION CHECKLIST - PERIODIC INSPECTION (ANNUAL)
- 6.6 GREEN LIFT CHECKLIST

7.0 FIELD ENGINEERING

- 7.1 INTRODUCTION
- 7.2 ROLES AND RESPONSIBILITIES
- 7.3 VALUE ADDED PROGRAMS - CONSTRUCTABILITY PROCESS
- 7.4 VALUE ADDED PROGRAMS - COST AWARENESS
- 7.5 CONSTRUCTABILITY - SECTION I - OVERVIEW
- 7.6 CONSTRUCTABILITY - SECTION II - PROJECT PHASES AND DELIVERABLES
- 7.7 CONSTRUCTABILITY - SECTION III - DOCUMENTATION AND SHARING
- 7.8 CONSTRUCTABILITY - SECTION IV - SAMPLE CHECKLIST FORMS
- 7.9 PLOT PLAN AND EQUIPMENT GENERAL ARRANGEMENT CHECKLIST
- 7.10 CIVIL CHECKLIST
- 7.11 CONCRETE CHECKLIST
- 7.12 STEEL CHECKLIST
- 7.13 BUILDINGS CHECKLIST
- 7.14 ELECTRICAL CHECKLIST
- 7.15 PROCUREMENT AND CONTRACT CHECKLIST
- 7.16 CONSTRUCTION CHECKLIST

8.0 QUALITY (REFERNCE QMSP)

- 8.1 ORGANIZATION AND RESPONSIBILITIES

Fluor-Lane, LLC

- 8.2 PROCESS CONTROL
- 8.3 INSPECTION, MEASURING, AND TEST EQUIPMENT
- 8.4 CONTROL OF NONCONFORMANCE
- 8.5 CORRECTIVE ACTION
- 8.6 PREVENTIVE ACTION
- 8.7 QUALITY RECORDS
- 8.8 QUALITY AUDITS
- 8.9 PERSONNEL TRAINING AND QUALIFICATION
- 8.10 SITE SUBCONTRACTOR QUALIFICATION
- 8.11 SUBCONTRACTOR QUALITY REQUIREMENTS
- 8.12 SURVEILLANCE OF CONSTRUCTION ACTIVITIES
- 8.13 FIELD RECEIVING INSPECTION
- 8.14 TURNOVER
- 8.15 MATERIAL AND EQUIPMENT STORAGE AND MAINTENANCE
- 8.16 ACTIVITY PLAN FOR CONSTRUCTION

9.0 HEALTH AND SAFETY DURING CONSTRUCTION [REFERENCE HSE PLAN]

10.0 ENVIRONMENTAL HAZARD MANAGEMENT [REFERNCE EMP]

11.0 ATTACHMENTS

As FYI, the CM Plan in WWB includes the following:

Section One

1. Intro
2. Proj Mgmt Org
3. Field Org
4. Proj Schedule Overview
5. Civil Rights Program

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- 6. [Public Affairs](#)
- 7. [Financial Oversight](#)
- 8. [Safety](#)
- 9. [Materials](#)
- 10. [Proj Documentation](#)
- 11. [Traffic & Incident Management](#)
- 12. [Field Changes](#)
- 13. [Schedule & Cost](#)
- 14. [Progress Meetings](#)
- 15. [Progress Payments](#)
- 16. [Work Acceptance](#)
- 17. [Definitions](#)
- 18. [Position Description](#)

Section Two

Environmental Inspection Plan

- 1. [Intro](#)
- 2. [Team Structure, Responsibilities & Activities](#)

Section Three

- 1. [VDOT/GEC Functional Responsibility Matrix](#)

Section Four

- 1. [Incident Management Plan](#)

Section Five

Process Flow Charts

- 1. [Chain of Command for Construction Management Staff](#)
- 2. [Submittal Review Process](#)
- 3. [Materials Clearance Process](#)
- 4. [Request for Information](#)
- 5. [Correspondence Review Process](#)
- 6. [Work Order Process](#)
- 7. [Claim Review Process](#)
- 8. [Close-out Process](#)

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The Concessionaire in developing the final PDP's in accordance with the Technical Requirements will take the following comments into consideration

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VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): ROGER BOOTHE	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: DESIGN MANAGEMENT PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
1.	General	Need Section addressing Over the Shoulder Reviews. A detailed process needs to be determined and agreed to by VDOT and FTU for the OSRs. Design PDP should capture this detail			
2.	6.0	Is the discussion of Systems Engineering Process specific to the technology elements of this project? If not, what application will it have to construction?			
3.	16.0	Is this section germane? Shouldn't it be part of the Document Management PDP?			
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15.					
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VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): JEFF CALDWELL	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: PUBLIC INFORMATION PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
1.	General	In general, it appears to be a well developed plan with the proper elements for success. I believe that Joan Morris and Steve Titunik should take the time to review and offer comments to you, as they will end up being the ones to implement this plan and work with Transurban on its day-to-day activities.			
2.	General	In many places, DRPT is omitted as a partner when they are needed to be a part of this plan.			
3.	Page 7	The breakdown of audiences and ways to manage the challenges innate with each does not include tourist or pass-through traffic. This will be a big issue for that area, as the Beltway is not just a commuter highways. We must develop a tactical plan to address this audience.			

The following comment and resolution sheets are VDOT's initial comments on the PDP's provided by the Concessionaire.

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ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
4.	Page 20; 1.4.6.5	A hotline is mentioned as a communications tool. We need to discuss where the proper location for this hotline management is to take place. This should be coordinated with the Mega Project information centers being created and managed by Steve Titunik			
5.	Page 21	Again, need to coordinate with VDOT's project information centers, or "stores"			
6.	Page 28; 1.5.7	This says VDOT will manage large-scale outreach for businesses. I am not sure we have discussed, nor agreed to this. We will end up with a resource issue there. DRPT should also be involved in this for their telework efforts.			

The following comment and resolution sheets are VDOT's initial comments on the PDP's provided by the Concessionaire.

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ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
7.	Page 33	All traffic and road construction schedules MUST be channeled through 511 Virginia. We cannot have multiple places where citizens have to monitor to find out the overall traffic picture through this and the other mega projects. That paradigm is too confusing for motorists. All traffic info should be required to focus to 511 as the single point of collection for road closure and traffic impact information.			
8.	Pages 49-55	Comment is made about using DMS during non emergencies to promote the project phone number and Web site. This would go against established operations policies for DMS. Need to coordinate with regional operations center before a commitment is made here.			

The following comment and resolution sheets are VDOT's initial comments on the PDP's provided by the Concessionaire.

The Concessionaire in developing the final PDP's in accordance with the Technical Requirements will take the following comments into consideration

VIRGINIA DEPARTMENT OF TRANSPORTATION 495 HOT LANES PROJECT REVIEW COMMENT AND RESOLUTION SHEET				CODES: A. ACCEPT COMMENT—WILL BE CORRECTED, ADDED, OR CLARIFIED. B. DESIGNER WILL EVALUATE. C. DELETE COMMENT D. DEPARTMENT TO EVALUATE.	
VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): JEFF CALDWELL	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: PUBLIC INFORMATION PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
9.	Page 50; 1.13	It says VDOT will manage all advertising placement and execution, save for funding. I am not sure we are able to assume that responsibility ourselves. This will be highly dependent upon resources and upon procurement issues. Need more discussion here.			
10.	Page 53; 1.115	Need to outline proper research methodology and collection provisions. We need to coordinate this with out other research programs so that we collect similar data to what has been established as baseline data. Our preference would be for this research to be conducted by our trusted VDOT research contractor, the Southeastern Institute of Research, so we can use what is already available through other studies, and capitalize on their 20+ years of research in transportation when we commission additional research studies.			

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VIRGINIA DEPARTMENT OF TRANSPORTATION 495 HOT LANES PROJECT REVIEW COMMENT AND RESOLUTION SHEET				CODES: A. ACCEPT COMMENT—WILL BE CORRECTED, ADDED, OR CLARIFIED. B. DESIGNER WILL EVALUATE. C. DELETE COMMENT D. DEPARTMENT TO EVALUATE.	
VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): PB / BILL JOHNSON & STEVE HAMLETT	DATE: 12/03/2007
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: UTILITIES	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
1.	PDP 09 - Utilities Plan Outline	Since this is just an outline comments cannot be made until it is determined exactly what elements and actions are to be taken under each topic. There may be items that are going to be in the body of the line item but as of now I cannot address anything with what has been made available.			
2.					
3.					
4.					
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6.					
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9.					
10.				•	

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The Concessionaire in developing the final PDP's in accordance with the Technical Requirements will take the following comments into consideration

VIRGINIA DEPARTMENT OF TRANSPORTATION 495 HOT LANES PROJECT REVIEW COMMENT AND RESOLUTION SHEET				CODES: A. ACCEPT COMMENT—WILL BE CORRECTED, ADDED, OR CLARIFIED. B. DESIGNER WILL EVALUATE. C. DELETE COMMENT D. DEPARTMENT TO EVALUATE.	
VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): ROGER BOOTHE, MARGI RAY	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: DOCUMENT MANAGEMENT PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
1.	4.4	A review form or forms must be developed as part of the Over the Shoulder Review Process to formally capture review comments. This should be reflected in 4.4			
2.	4.7.1	Section should be revised to include design work presented to and commented on by VDOT and our representatives that is not part of the formal submittals defined in ARCA.			
3.	3.2 or 4.0	Doc. Control Manager or whoever should provide a monthly summary report to VDOT PM or designee detailing status of all documents being tracked			
4.	General	This document has been developed by Fluor-Lane, shouldn't this apply to the Concessionaire also or will they have a separate document management system?			
5.	General	Will the Document Management System be audited? Where would this be covered? Should it be referenced or detailed here?			

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VIRGINIA DEPARTMENT OF TRANSPORTATION 495 HOT LANES PROJECT REVIEW COMMENT AND RESOLUTION SHEET				CODES: A. ACCEPT COMMENT—WILL BE CORRECTED, ADDED, OR CLARIFIED. B. DESIGNER WILL EVALUATE. C. DELETE COMMENT D. DEPARTMENT TO EVALUATE.	
VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): ROGER BOOTHE, MARGI RAY	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: DOCUMENT MANAGEMENT PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
6.	General	Attachment A is not mentioned until section 4.6.1.d. The attachment includes retention schedules. Shouldn't the document include a discussion of Attachment A and the retention schedule? How will documents be destroyed? What say does VDOT have in the retention schedule and/or destruction of documents?			
7.	General	Should the plan address any coordination, review, auditing by VDOT or FHWA and how that might be handled?			
8.	General	<ul style="list-style-type: none"> There is not Disaster Recovery Plan Listed. – This needs to be part of plan. 			
9.	General	<ul style="list-style-type: none"> Exhibits defining party codes, correspondence codes, internal group codes, disciplines codes, document types, etc – it is not contemplated additions will be added. No procedures on who has authority when situation requires addition. 			
10.	General	<ul style="list-style-type: none"> No timeframes of when documents will be processed and available for review. Is it a day, days, week, weeks or a month?? 			
11.	General	<ul style="list-style-type: none"> Does not identify what equipment/software will be required to view documents and to what limitations, if any are imposed. 			

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VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): ROGER BOOTHE, MARGI RAY	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: DOCUMENT MANAGEMENT PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. NO. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
12.		<ul style="list-style-type: none"> An upgrade to system is not contemplated or listed. No procedures identified. No listing of maintaining system for duration of the concession period. 			
13.	1.1	work period. This appears to have a defined term, should it be defined?			
14.	1.2	Team members not defined – Does this included VDOT team members??			
15.	1.2, second bullet	Spell out EDMS, first reference			
16.	3.1, 2 nd para	Should Document Management be capitalized, implies a defined term – if so, define			
17.	3.1, 2 nd para	Should the phrase “project documentation” be a defined term?			
18.	4.1, 2 nd para	EDMS has already been defined, abbreviate			
19.	4.2	Design Quality Management Plan is listed. What about all the other plans??			
20.	4.4	List does not reference expansion of list. What about all the different plans needed to be developed??			
21.	4.4, 7 th bullet	Consultant Service Agreement - should this be plural			

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VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): ROGER BOOTHE, MARGI RAY	DATE: 12/05/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: DOCUMENT MANAGEMENT PLAN	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
22.	4.7.1, 4 th para	States that 100% package will be submitted to document control. I read this as 100% design plans. What about preliminary plans, e.g., 30%, 60% etc.			
23.	4.7.2	How does client review figure into document management and which documents are included in the EDMS?			
24.	4.7.4	ROW Subcontractor (Greenhorne & O'Mara will hold documents until project closeout or as property closure are reached for each parcel. How are documents viewed prior project closeout or as property closure is reached for each parcel?			
25.	4.7.8	Project's Quality Manual – is this the same as DQMP? If so reference as DQMP since that was identified earlier. If no, then it should identify what this manual is.			
26.					
27.					
28.					
29.				•	

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VIRGINIA DEPARTMENT OF TRANSPORTATION 495 HOT LANES PROJECT REVIEW COMMENT AND RESOLUTION SHEET				CODES: A. ACCEPT COMMENT—WILL BE CORRECTED, ADDED, OR CLARIFIED. B. DESIGNER WILL EVALUATE. C. DELETE COMMENT D. DEPARTMENT TO EVALUATE.	
VDOT PROJECT NUMBER:		UPC NUMBER:		REVIEWER(S): PB	DATE: 10/10/07
DESCRIPTION: I-495 HOT LANES DRAFT PROJECT DEVELOPMENT PLANS		REVIEW PHASE & TYPE: PROJECT DEVELOPMENT PLANS		DISCIPLINE: HS&S	CRM: (IF REQUIRED)
ITEM NO.	DWG. No. ⁽¹⁾	COMMENTS	CODE ⁽²⁾	RESPONSE ⁽²⁾	FINAL DISPOSITION ⁽³⁾
1.	General	Since their info only represents only a high level outline, it is difficult to comment until a more robust product is submitted for review. That product will hopefully contain the essentials of a security management program such a personnel surety, physical access and credentialing, security training/standards, etc.			
2.	General	also suggest coordination with the VDOT Information Security Program.			
3.	General	Since the info only represents a high level outline, it is difficult to comment until a more robust product is submitted for review. That product will hopefully contain the essentials of a security management program such a personnel surety, physical access and credentialing, security training/standards, etc. If I may, I would also suggest coordination with the VDOT Information Security Program.			
4.					
5.					
6.					

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The following comment and resolution sheets are VDOT's initial comments on the PDP's provided by the Concessionaire.

The Concessionaire in developing the final PDP's in accordance with the Technical Requirements will take the following comments into consideration

ENVIRONMENTAL MANAGEMENT PLAN (OUTLINE)

Revision	Date	Revision Description	Prepared By	Approved By
0	12-Nov-2007	Issued for Project Development Plans	L. Fitzpatrick	

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1.0 PURPOSE AND SCOPE

1.1. PURPOSE

The Environmental Management Plan (EMP) outlines the environmental management controls to mitigate potential environmental impacts and to demonstrate compliance with the Agreements and Technical Requirements on the Route 495 HOT Lanes in Virginia Project.

1.2. SCOPE

This EMP identifies project areas that require environmental management and describes how to address these areas. This EMP is a living document that is meant to be used during design and construction. Information will be modified, added and (or) deleted from the EMP to reflect changes in the project. Areas of environmental management discussed in this procedure are:

- Policy
- Responsibilities
- Training
- Housekeeping
- The physical environment
- Emergency response
- Auditing, reviews and reporting

2.0 DEFINITIONS, ACRONYMS AND REFERENCES

3.0 INTRODUCTION

3.1 ENVIRONMENTAL MANAGEMENT OBJECTIVES

3.2 PROGRAM OF WORK

4.0 ENVIRONMENTAL POLICY

5.0 RESPONSIBILITIES/ACCOUNTABILITY FOR ENVIRONMENTAL MANAGEMENT

5.1. FLUOR-LANE

5.2. CLIENT

5.3. CONTRACTORS

Fluor-Lane, LLC

6.0 ENVIRONMENTAL TRAINING

7.0 SITE LOCATION AND DESCRIPTION

8.0 ENVIRONMENTAL ISSUES OF CONCERN

8.1. NEPA DOCUMENTATION

8.1.1. Introduction

8.1.2. Scope / Design Modifications and NEPA re-evaluation process

8.1.3. Coordination Process

8.1.4. Documentation

8.2. WATER QUALITY AND STORMWATER MANAGEMENT

8.2.1. Introduction

8.2.2. Relevant Permits / Approvals

8.2.3. Possible Risks

8.2.4. Background Data

8.2.5. Mitigation Measures

8.2.6. Environmental Procedures

8.2.7. Monitoring and Compliance

8.2.8. Documentation

8.3. AIR QUALITY

8.3.1. Introduction

8.3.2. Possible Risks

8.3.3. Mitigation Measures

8.3.4. Monitoring and Compliance

8.3.5. Documentation

8.4. CONSTRUCTION NOISE AND VIBRATION

8.4.1. Introduction

Comment: There are no Permits for Air Quality

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- 8.4.2. Possible Restrictions
- 8.4.3. Background Information
- 8.4.4. Relevant Permits / Approvals
- 8.4.5. Possible Risks
- 8.4.6. Vibration and Noise Management Objectives
- 8.4.7. Mitigation Measures
- 8.4.8. Monitoring and Compliance
- 8.4.9. Environmental Procedures
- 8.4.10. Documentation

8.5. NOISE ABATEMENT

- 8.5.1. Introduction
- 8.5.2. Virginia State Noise Abatement Process
- 8.5.3. Mitigation Measures
- 8.5.4. Monitoring and Compliance Requirements
- 8.5.5. Documentation

8.6. SURFACE WATER, GROUND WATER, AND WETLANDS

- 8.6.1. Introduction
- 8.6.2. Relevant Permits / Approvals
- 8.6.3. Possible Risks
- 8.6.4. Mitigation Measures
- 8.6.5. Monitoring and Compliance Requirements
- 8.6.6. Documentation

8.7. CONTAMINATED LAND/HAZARDOUS MATERIAL

- 8.7.1. Introduction
- 8.7.2. References
- 8.7.3. Mitigation Measures

Comment: Unless there is some specific Environmental need to have Traffic Management addressed in this EMP, it should be deleted.

Deleted: <#>TRAFFIC MANAGEMENT¶
<#>Introduction¶
<#>Relevant Legislation¶
<#>Management Measures¶
<#>Monitoring and Compliance¶
<#>Documentation¶

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Deleted: <#>Relevant Permits¶

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8.7.4. Monitoring and Compliance Requirements

8.7.5. Documentation

8.8. FLOODPLAINS

8.8.1. Introduction

8.8.2. Mitigation Measures

8.8.3. Monitoring and Compliance

8.8.4. Documentation

8.9. WILDLIFE AND HABITATS

8.9.1. Introduction

8.9.2. Relevant Permits / Approvals

8.9.3. Baseline Data and Sensitive Receptors

8.9.4. Management Measures

8.9.5. Documentation

8.10. LIGHTING

8.10.1. Introduction

8.10.2. Management Measures

8.10.3. Documentation

8.11. HISTORIC PROPERTIES, SECTION 6(F), AND SECTION 4(F) PROPERTIES

8.11.1. Introduction

8.11.2. Resources of Concern

8.11.3. Baseline Data

8.11.4. Mitigation and Management Measures

8.11.5. Documentation

8.12. EROSION AND SEDIMENT CONTROL

8.12.1. Introduction

8.12.2. Relevant Permits / Approvals

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Comment: Signage falls outside EMP. Visual intrusions will be handled under any resource rather than as a separate issue.

Deleted: VISUAL INTRUSION, SIGNAGE AND

Deleted: CULTURAL RESOURCES

Deleted: <#>Relevant Permits¶

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Comment: Geology, Soils are Geotech/Materials issues not environmental.

Deleted: <#>GEOLOGY, SOILS AND GROUNDWATER¶
<#>Introduction¶
<#>Relevant Permits¶
<#>Mitigation Measures¶
<#>Documentation¶

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- 8.12.3. Existing Site Condition
- 8.12.4. Best Management Practices
- 8.12.5. Pollution Prevention
- 8.12.6. Permanent Stabilization
- 8.12.7. Documentation and Compliance

8.13. ENVIRONMENTAL COMPLIANCE MONITORING

8.14. PUBLIC RELATIONS

- 8.14.1. Introduction
- 8.14.2. Responsibilities
- 8.14.3. Management Measures and Outreach Strategies
- 8.14.4. Documentation

8.15. WORK-SITE HOUSEKEEPING

- 8.15.1. Introduction
- 8.15.2. Management Measures
- 8.15.3. Housekeeping
- 8.15.4. Order and Arrangement
- 8.15.5. Personal Pathways
- 8.15.6. Documentation
- 8.15.7. Aerosol Can Storage

8.16. EMERGENCY RESPONSE PLANS

- 8.16.1. Introduction
- 8.16.2. References
- 8.16.3. Reporting Requirements
- 8.16.4. Management Measures
- 8.16.5. Documentation

9.0 HEALTH AND SAFETY

Comment: Add as separate heading unless Compliance Monitoring is anticipated to be incorporated into each of the other Sections as appropriate.

Deleted: <#>SOCIOECONOMICS (ENVIRONMENTAL JUSTICE), LAND USE¶
<#>Introduction¶
<#>Relevant Permits¶
<#>Mitigation Measures¶
<#>Documentation¶

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10.0 ENVIRONMENTAL AUDITING, REVIEW AND REPORTING

11.0 RESOURCES

12.0 REFERENCES

13.0 ATTACHMENTS

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Attachment 1.5A – Standards and Specifications

Attachment 1.5A Standards and Specifications

Note: The standards, special provisions and reference guides applicable for the initial build out of the Works shall be those versions of the documents in effect as of August 1, 2007 unless otherwise stated below or mutually agreed by VDOT and the Concessionaire. Following the completion of the Initial Construction Works, all subsequent design and construction must meet standards current at the time of carrying out the work.

- a) Groupings of standards are for ease of reference only and it is the responsibility of the Concessionaire to ensure that all relevant standards and specifications have been applied.

1.1 Standards and Specifications

GENERAL

VDOT Construction Manual (2005)

VDOT Post Construction Manual (Updated July 2007)

VDOT Construction Inspection Manual (December 2001)

VDOT's Minimum Quality Control & Quality Assurance Requirements for Design-Build & Public-Private Transportation Act Projects (August 2007)

VDOT Traffic Engineering Design Manual

VDOT Right of Way and Utilities Division Manuals, Vol. I (July 1999) and II (November 2003)

VDOT Land Use Permit Manual

VDOT Policy Manual for Public Participation in Transportation Projects (updated January 2007)

VDOT Instructional & Information Memorandums (I&IM) All Divisions as of August 1, 2007

VDOT Traffic Engineering Memoranda, as of August 1, 2007

VDOT Road and Bridge Standards, Vol. 1 and Vol. 2 (2001)

VDOT Road and Bridge Standards, Vol. 1 and Vol. 2 (1996), Metric

VDOT Road and Bridge Specifications (2002), including all revisions

VDOT Metric Road and Bridge Specifications (1997)

VDOT 2005 Virginia Work Area Protection Manual

VDOT Mobility Management Division Memoranda

Americans with Disabilities Act Accessibility Guidelines for State and Local Government Facilities

Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities dated July 23, 2004 and amended August 5, 2005

Transportation Research Board Highway Capacity Manual (2000)

Virginia Construction Code, 2003

VDOT Manual of Instruction for Material Division

VDOT CADD Manual (Version 2004)

VDOT State Noise Abatement Policy

ISO 9001 Quality Management Systems 2000

Manual of Instructions – Materials Division, Virginia Department of Transportation, July 2006

ROADWAY DESIGN

VDOT 2003 Minimum Standards of Entrances to State Highways

VDOT Policy for Integrating Bicycle and Pedestrian Accommodations

VDOT Road Design Manual (all revisions as of August 2007)

AASHTO A Policy on Geometric Design of Highways and Streets (2004)

AASHTO Roadside Design Guide, Third Edition, 2006 (updated chapter 6)

AASHTO: A Policy on Design Standards Interstate System, Jan 2005

AASHTO – Guide for High Occupancy Vehicles, October 2004.

Access Board's Revised Draft Guidelines for Accessible Public Rights of Way dated November 23, 2005

PAVEMENT

VDOT Guidelines for 1993 AASHTO Pavement Design, Revised – May 2003

AASHTO Guide for Design of Pavement Structures (Rigid Pavement and Flexible Pavement) (1993 Edition)

AASHTO Minimum Requirements for Design Level Geotechnical Investigations, 2004

AASHTO "Guidelines for Subsurface Investigations".

DEMOLITION AND SITE CLEARANCE

VDOT Asbestos Project Monitoring and Clearance Air Monitoring Procedures, dated September 16, 2003

VDOT Asbestos Inspection Procedures, September 16, 2003

STRUCTURES

VDOT Manual of Structure and Bridge Division, Vol. III, V & VII

VDOT Structure and Bridge Checklists

AASHTO Standard Specification for Seismic Design of Highway Bridges

AASHTO Standard Specifications for the Design of Highway Bridges 1996, 1997 and 1998 Interim Specifications and VDOT Modifications

AASHTO Guide Specifications for Horizontally Curved Highway Bridges, 2003

AASHTO Fracture Critical Non-Redundant Steel Bridge Members Current Spec. with all Interim Specifications

AASHTO Guide for Protective Screening of Overpass Structures (1990)

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and traffic signals, 1994 Edition

AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals, 4th (2001) Edition (to be used for the design of dynamic message sign supports only).

AASHTO Guide Specifications for Structural Design of Sound Barriers.

FHWA Mechanically Stabilized Earth Walls and Reinforced Slopes Design and Construction Guidelines, 2000

DRAINAGE

VDOT 2002 Drainage Manual (including current Errata Sheets) and revisions

VDOT Hydraulic Design Advisories as of August 1, 2007

DCR Virginia Erosion and Sediment Control Handbook (Third Edition – 1992)

FHWA Hydraulic Engineering Circular Number 14 (HEC-14), Hydraulic Design of Energy Dissipaters for Culverts and Channels, 2006

FHWA Hydraulic Engineering Circular Number 17 (HEC-17), The Design of Encroachments on Flood Plains Using Risk Analysis, 1981

FHWA Hydraulic Engineering Circular Number 18 (HEC-18), Evaluating Scour at Bridges, 2001

FHWA Hydraulic Engineering Circular Number 20 (HEC-20) Stream Stability at Highways, 2001

FHWA Hydraulic Engineering Circular Number 21 (HEC-21), Design of Bridge Deck Drainage Systems, 1993

FHWA Hydraulic Engineering Circular Number 22 (HEC-22), Urban Drainage Design Manual, 2001

FHWA Hydraulic Engineering Circular Number 23 (HEC-23), Bridge Scour and Stream Instability Countermeasures – Experience, Selection and Design, 2001

FHWA Culvert Inspection Manual, 1986

US Army COE, Hydrologic Modeling System (HEC HMS)

Virginia, Erosion and Sediment Control Law and Regulations, July 2006

Virginia Stormwater Management Law and Regulations, July 2006

FEMA National Flood Insurance Program Regulations

US Army COE, River Analysis System (HEC RAS)

TRAFFIC CONTROL DEVICES AND LIGHTING

USDOT FHWA Standard Highway Signs

Manual of Uniform Traffic Control Devices (MUTCD) and Virginia Supplement to MUTCD, 2003

AASHTO Guide for Roadway Lighting Design (2005)

National Fire Protection Association NEC Standards, 2005

VDOT Traffic Calming Guide for Local Residential Streets, 2002

MISCELLANEOUS

VDOT Survey Manual (2002 Edition)

VDOT Guardrail Installation Training Manual (GRIT) February 2006

ITS

Institute of Electrical and Electronics Engineer (IEEE) 802.3 Local and Metropolitan Area Networks

National Electric Manufacturers Association (NEMA) TS-4 Hardware Standards for Dynamic Message Signs (DMS) with NTCIP Requirements

IEEE 1512-2006 - IEEE Standard for Common Incident Management Message Sets for Use by Emergency Management Centers, IEEE 1512.1-2006 – IEEE Standard for Common Traffic Incident Management Message Sets for Use by Emergency Management Centers

National Transportation Communications for ITS Protocol (NTCIP)

1.2 SPECIAL PROVISIONS

In the event of a conflict between the requirements of these Special Provisions and any sections of the Technical Requirements, the Technical Requirement sections will take precedence.

SPCN Section 407.06 – Erection Procedures, June 29, 2007

SPCN Section 309.05 – Density Requirements, February 16, 2005

Virginia Department of Transportation Special Provision for Elastic Inclusion, April 16, 2007 only when noted in plans.

Virginia Department of Transportation Special Provision for Sound Barrier Walls, August 16, 2007

Virginia Department of Transportation Special Provision for Reinforced Earth Walls, July 5, 2007

Virginia Department of Transportation Special Provision for Use of Domestic Material, July 9 2002 (S102C0B)

Virginia Department of Transportation Special Provision for Section 1051.10 Construction Stakes, Lines and Grades, July 9 2002 (S105A0B)

Virginia Department of Transportation Special Provision for Low Permeability Concretes, December 2, 2002 (S217A0B)

Virginia Department of Transportation Special Provision for Section 231 – Paint, November 29, 2004 (S231A1B)

Virginia Department of Transportation Special Provision for Section 242 – Fences, August 20, 2003 (S242A0B)

Virginia Department of Transportation Special Provision for Section 245 – Geosynthetics, April 6, 2004 (S245A1B)

Virginia Department of Transportation Special Provision for Flowable Backfill, July 9, 2002 (S302A0B)

Virginia Department of Transportation Special Provision for Wave Equation Analysis, May 25, 1999 (S400A1B)

Virginia Department of Transportation Special Provision for Dynamic Pile Testing for End Bearing Piles, May 25, 1999 (S403C0B)

Virginia Department of Transportation Special Provision for Tooth Expansion Joint, July 9, 2002 (S407B0B)

Virginia Department of Transportation Special Provision for Removal or Connection of Asbestos Cement Pipe, November 7, 2005 (S500A1B)

Virginia Department of Transportation Special Provision for Section 501 – Underdrains, September 13, 2002 (S501B0B)

Virginia Department of Transportation Special Provision for Section 700 – General, October 5, 2005 (use by the November 2006 advertisement) (S700A5B)

Virginia Department of Transportation Special Provision Copied Notes c105b0b – Section 105.02 Plans and Working Drawings, July 2002

Virginia Department of Transportation Special Provision Copied Notes c200a0b – Section 200.06 Technician and Batcher Certification, October 25, 2005

Virginia Department of Transportation Special Provision Copied Notes c202a0b – Table II-1 Fine Aggregate, August 30, 2003

Virginia Department of Transportation Special Provision Copied Notes c203b0b – Section 203 Coarse Aggregate, August 17, 2004

Virginia Department of Transportation Special Provision Copied Notes c215a0b – Section 215 – Hydraulic Cement Concrete Admixtures, February 14, 2006

Virginia Department of Transportation Special Provision Copied Notes c216a0b – Section 216.02 – Detail Requirements, January 30, 2003

Virginia Department of Transportation Special Provision Copied Notes c217a0b – Section 217.09(b) Ready Mixed Concrete, July 2002

Virginia Department of Transportation Special Provision Copied Notes c217c0b – Section 217 – Hydraulic Cement Concrete, August 17, 2004

Virginia Department of Transportation Special Provision Copied Notes c220a0b – Section 220.02(d) – Liquid Membrane Forming Compounds, August 17, 2004

Virginia Department of Transportation Special Provision Copied Notes c232a0b – Section 232 – Pipe and Pipe Arches, Use by the November 2006 Advertisement

Virginia Department of Transportation Special Provision Copied Notes c243a0b – Section 243.02 – Detail Requirements, April 22, 2003

Virginia Department of Transportation Special Provision Copied Notes c302b2b – Section 302 – Drainage Structures, use by the November 2006 Advertisement

Virginia Department of Transportation Special Provision Copied Notes c401a0b – Section 401.03(i) Backfilling, July 28, 2003

Virginia Department of Transportation Special Provision Copied Notes c403a0b – Section 403 Bearing Piles, November 29, 2004

Virginia Department of Transportation Special Provision Copied Notes c404b1b – Section 404 – Hydraulic Cement Conc. Operations, October 29, 2004

Virginia Department of Transportation Special Provision Copied Notes c405a0b – Section 405.04 – Concrete Controls, August 17, 2004

Virginia Department of Transportation Special Provision Copied Notes c407a0b – Section 407.04(i) Stud Shear Connections, December 16, 2002

Virginia Department of Transportation Special Provision Copied Notes c410a0b – Section 410- Railings and Parapets, January 12, 2005

Virginia Department of Transportation Special Provision Copied Notes c413a0b – Section 413.02(b) Removing Portion of Existing Structure, July 10, 2003

Virginia Department of Transportation Special Provision Copied Notes c504b0b – Section 504 – Sidewalks, Steps, and Handrailings, January 12, 2005

Virginia Department of Transportation Special Provision Copied Notes c507b1b – Section 507 – Fences, use by the November 2006 Advertisement

Virginia Department of Transportation Special Provision Copied Notes c702a0b – Section 702.04(b) – Barrier and Guardrail Delineators, July 2002

Virginia Department of Transportation Special Provision for Section 303 – Earthwork, January 7, 2005 (S303E2B),

Virginia Department of Transportation Special Provision for Section 301 – Clearing and Grubbing January 27, 2003

Virginia Department of Transportation Special Provision for Asbestos Removal for Road Construction Demolition Projects, April 25, 2001

Northern Region Special Provisions for Traffic Signal Construction revised 09/07

1.3 Reference Guides

Concessionaire is to take account of VDOT's reference guides in the design, construction and operation of the project. Reference guides are not mandatory but are considered Good Industry Practice by VDOT.

VDOT Northern Region Operations ITS Architecture (www.vdot-itsarch.com)

VDOT Northern Region Operations Incident Management Plan

VDOT Northern Region Operations Telecommunications Plan

A Dialogue with the Industry (08-18-03).pdf

A Dialogue with the Industry Consultation (01-13-05).pdf

Calculation of Clearance Intervals (08-19-03).pdf

Clearance Chart (08-18-03).pdf

Conductor Cable and Conduit Sizes (08-18-03).pdf

Detector Placement (01-13-05).pdf

Double Left-turn Lane Diagram (08-18-03).pdf

General Guidelines for Signal Design (08-18-03).pdf

Left Turn Phasing Guide (0-18-03).pdf

Light Emitting Diode Module (08-18-03).pdf

Mast Arm Signage (08-18-03).pdf

Mast Arm Design Notes (0-8-18-03).pdf

Mast Arm Traffic Signal Pole Guide (08-18-03).pdf

Preliminary Sub Example.TIF

Rest in Walk pedestrian phasing (01-13-05).pdf

Right Turn overlap phasing (01-13-05).pdf

Right-of-way Diagrams (01-13-05).pdf

Side street split phasing (01-13-05).pdf

Signal Control Justification (08-18-013).pdf

Signal Plan Update (01-13-05).pdf

Signal Symbols (08-18-03).pdf

Signal Timing Submission Process (08-18-03).pdf

Span Wire Design Notes (08-18-03).pdf

Telespar Sign Supports (01-13-05).pdf

Timing Template-170 format (01-3-05).xls

VDOT Design Notes (08-18-03).pdf

American Water Works Association Standards

FHWA Hydraulic Design Series No. 1, Hydraulics of Bridge Waterways, 1978

FHWA Hydraulic Design Series No. 2, Highway Hydrology, 2002

FHWA Hydraulic Design Series No. 3, Design Charts for Open Channel Flow, 1961

FHWA Hydraulic Design Series No. 4, Introduction of Highway Hydraulics, 2001
FHWA Hydraulic Design Series No. 5, Hydraulic Design of Highway Culverts 2005
FHWA Hydraulic Design Series No. 11, Design of Riprap Revetment, 1989
USDA, NRCS, Urban Hydrology for Small Watersheds, TR-55, June 1986
VDOT Traffic Calming Guide for Local Residential Streets, 2002
FHWA - A guide for HOT lane Development, March 2003
VDOT Stormwater Management Handbook
Virginia Department of Transportation Special Provision for Construction Noise Control, June 28, 2007
Virginia Department of Transportation Special Provision for Drilled Shafts, August 7, 2007
Virginia Department of Transportation Special Provision for Density Control of Embankments and Backfill, Revised – November 26, 2006
Virginia Department of Transportation Special Provision for Sec.411 – Protective Coating of Metal in Structures, November 29, 2004 (S411A2B)
ITE TMDD - Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC)
Communications & Outreach Protocol, February 2007 – VDOT / Fluor-Transurban
VDOT/VTCA/FHWA Approved Training Manual
Detector Placement (01-13-05).pdf
Pavement Marking and Sign Design Guidelines (01-13-05).pdf
Signal Head Layouts (01-13-05).pdf

1.4 Reference Documents

VDOT DBE Program, March 15, 2007.
Virginia Department of Transportation critical infrastructure information and sensitive security information (CII/SSI) policy, November 1, 2004
Virginia Department of Transportation security policy, November 1, 2004

1.5 Amendments to VDOT Standards

See Attachment 1.5D

Attachment 1.5B – Design Criteria

Attachment 1.5B - Design Criteria

1 Roadway

1.1 DESIGN TRAFFIC VOLUMES

a) As defined in Attachment 3.5.a – Interchange Justification Report

1.2 HIGHWAY DESIGN CRITERIA

Note: Metric units to be used as the basis for the Phase VIII design criteria.

1.2.1 Roadway Functional Classifications

Roadway Type	Name	Functional Classification (sub class)
Mainline	I-495 General Purpose (GP) lanes	Urban Principal Arterial (freeway)
	I-495 HOT lanes	Urban Principal Arterial (freeway)
Directional Roadways	Conventional Lanes	
	HOT lanes	
Ramps	All	
Collector-Distributor (C-D) Roads	All	
Cross Roads	I-66	Urban Principal Arterial (freeway)
	Route 267 DTR	Urban Principal Arterial (freeway)
	Route 236 Little River Tpk	Urban Principal Arterial

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Route 50 Arlington Blvd	Urban Principal Arterial
Route 29 Lee Hwy	Urban Principal Arterial
Route 7 Leesburg Pk	Urban Principal Arterial
Route 123 Chain Br Rd	Urban Principal Arterial
Route 620 Braddock Rd	Urban Minor Arterial
Route 650 Gallows Rd	Urban Minor Arterial
Route 695 Idylwood Rd	Urban Minor Arterial
Route 769 Oak St	Urban Minor Arterial
Route 694 Lewinsville Rd	Urban Minor Arterial
Jones Branch	Urban Minor Collector
Jones Branch Connector	Urban Minor Collector
Westpark	Urban Local Street

1.2.2 Design Speed

Design Speeds			
Roadway		Range	
		Desirable	Minimum
Mainline			
	I-495 General Purpose Lanes	70 mph	70 mph
	I-495 HOT Lanes	70 mph	70 mph
Directional Roadways			
	All	60 mph	35 mph
C-D Roads			
	All	50 mph	45 mph
Ramps			
	Conventional Lanes	50 mph	25 mph*

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

	To/From CD Roads		
	To/From GP Roads	50 mph	25 mph**
	HOT Lanes	50 mph	25 mph
Cross Roads			
	1. Freeways		
	I-66	70 mph	60 mph
	Rte. 267	70 mph	60 mph
	2. Principal Arterials - Urban		
	Rte. 236	50 mph	40 mph
	Rte. 50	50 mph	40 mph
	Rte. 29	50 mph	40 mph
	Rte. 7	50 mph	40 mph
	Rte. 123	50 mph	40 mph
	3. Minor Arterials - Urban		
	Rte. 620	45 mph	40 mph
	Rte. 650	45 mph	40 mph
	Rte. 695	45 mph	30 mph
	Rte. 769	45 mph	30 mph
	Rte. 694	45 mph	40 mph
	4. Minor Collectors - Urban		
	Jones Branch	40 mph	30 mph
	Jones Branch Connector	40 mph	30 mph
	5. Local Streets - Urban		
	Westpark	30mph	30mph

* Maintain existing ramp design speed

1.2.3 Horizontal Alignment

MAXIMUM DEGREE OF CURVATURE

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

	Radius	
	Desirable Design Speed	Minimum* Design Speed
Mainline		
I-495 (Capital Beltway) GP	1821 ft	1821 ft
I-495 (Capital Beltway) HOT	1821 ft	1204 ft
Directional Roadways		
All	1204 ft	350 ft
Ramps		
Conventional Lanes	760 ft	172ft
To/From CD Roads	760 ft	172 ft
To/From GP Lanes	760 ft	172 ft
HOV Lanes	760 ft	172 ft
Cross Roads		
1. Freeways		
I-66	1821 ft	1204 ft
Rte. 267	1821 ft	1204 ft
2. Principal Arterials – Urban		
Rte. 236	929 ft	732 ft
Rte. 50	929 ft	732 ft
Rte. 29	929 ft	732 ft
Rte. 7	929 ft	732 ft
Rte. 123	929 ft	732 ft
3. Minor Arterials – Urban		
Rte. 620	732 ft	563 ft
Rte. 650	732 ft	563 ft
Rte. 695	732 ft	300 ft
Rte. 769	732 ft	300 ft

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Rte. 694

732 ft

563 ft

* Radii will be controlled by Horizontal Sight Distance, where barrier, guardrail, or other sight obstructions exist.

MINIMUM DISTANCE BETWEEN REVERSE CURVES

All Roadways Sufficient distance for reverse superelevation transition

REQUIREMENT FOR TRANSITION CURVES

Mainline No spiral transition required, if curve radius is 2850 ft or greater

Directional Roadways None

Ramps None

Mainline Compound transition curves should not exceed 1.5:1 ratio of the flatter radius to the sharper radius. The length shall be sufficient to accommodate the superelevation transition from crown removed to full super.

Cross Roads None

SUPERELEVATION MAXIMUM

Highways e = 0.08

Bridges e = 0.08

Local Streets and Urban Roads e = 0.04

SUPERELEVATION TRANSITIONS

Desired Speed Relative Slope

20 mph 1:135

30 mph 1:150

40 mph 1:175

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

50 mph	1:200
60 mph	1:225
70 mph	1:250

Where transition curves are not used, the superelevation transitions shall be positioned to accomplish 2/3 of the superelevation rate at the PC and PT.

1.2.4 Vertical Alignment

VERTICAL ALIGNMENT	MAXIMUM GRADE RANGE	
	DESIRABLE	MAXIMUM
Mainlines	3%	4%
Directional Roadways	3%	5%
Ramps		
Conventional	3% - 5% (50 mph)	5% - 8% (25 mph)
HOT Lanes	3% - 5% (50 mph)	5% - 8% (25 mph)
	MINIMUM GRADE RANGE	
	DESIRABLE	MINIMUM
Mainlines	0.5%	0.3%
Directional Roadways	0.5%	0.3%
Ramps	0.5%	0.3%
Conventional		
HOT Lanes		

1.2.5 Vertical Curve Length

Crest Curve Minimum Length to provide sufficient length of stopping distance based on a 3.5 ft height of eye and 2 ft height of object. (See table below).

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

CREST VERTICAL CURVE

Design Speed mph	Stopping Sight Distance ft	K
70	730	247
60	570	151
50	425	84
45	360	61
40	305	44
30	200	19
25	155	12
20	115	7

Sag Curve Minimum Length to provide sufficient length of sight distance based on a headlight height of 2 ft and a one degree upward divergence of the light beam from the longitudinal axis of the vehicle. (See table below).

If roadways are illuminated, sag vertical curves shorter than computed from the table below are acceptable.

SAG VERTICAL CURVE

Design Speed mph	Stopping Sight Distance ft	K
70	730	181
60	570	136
50	425	96
45	360	79
40	305	64
30	200	37
25	155	26
20	115	17

1.2.6 Vertical Clearance

VERTICAL CLEARANCE

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Highways

Mainline	16'6" ^{**}
Directional Roadways	16'6" ^{**}
All Ramps	16'6" ^{**}
Cross Roads	16'6" ^{**}

1.2.7 Roadway Width

ROADWAY WIDTHS

	Left Shldr. (paved)	Lanes	Right Shldr. (paved)
Interstate System			
3 or more lanes in same direction	10 ft ^{**}	12 ft	10 ft ^{**}
2 lanes in same direction	4 ft	12 ft	10 ft ^{**}
1 lane with radius > 172 ft	4 ft	16 ft	6 ft ^{***}
1 lane with radius of < 172 ft or less	4 ft	18 ft	6 ft
Hot Lane Ramps (off of bridges)			
1 lane > 25 mph	2 ft	16 ft	2 ft(4*)
Hot Lane Ramps (on bridges)			
1 lane ≤ 25 mph	2 ft	18 ft	2 ft(4*)
Cross Roads			
All	Design to Standards and Tie to Existing		

* New bridges only. For bridge widenings, existing minimum vertical clearance will be maintained.

** Use 12 ft if truck traffic exceeds 250 DDHV. Where roadside barriers, walls or other vertical elements are present it is desirable to provide a graded shoulder wide enough that the vertical elements be offset a minimum of 2 ft from the outer edge of usable shoulder." per 2004 AASHTO Green Book p. 315..

*** Use 8ft for design speed of 40 mph or more

4* Guide for High Occupancy Vehicle (HOV) Facilities, 3rd Edition, 2004 AASHTO

HORIZONTAL CLEARANCE ZONE

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Horizontal clear zones shall be in accordance to VDOT Road Design Manual Volume 1.

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

2 DRAINAGE

- a) The minimum recurrence interval storm to be used in the design of drainage facilities shall be in accordance with the guidelines and instructions contained in the 2002 VDOT Drainage Manual (including revisions and Errata Sheets). A general summary is provided below. See the appropriate sections of the Drainage Manual for more specific criteria and limitations.

CHANNELS

Roadside and Median Ditches and other Minor Channels

- | | |
|-----------------------|---------|
| i. Capacity | 10-Year |
| ii. Protective Lining | 2-Year |

Major Channels

- | | |
|-----------------------|---------|
| i. Capacity | 10-Year |
| ii. Protective Lining | 2-Year |

CULVERTS

Interstate System	50-Year for Non-Depressed
Primary and Arterial System	25-Year with Shoulder 10-Year without Shoulder
Secondary System	10-Year
Depressed Roadways	100-Year Check Storm

STORM DRAIN CONDUIT

Principal Arterial (Classification)(Interstate Included)	25-Year (with shoulder) All Design Speeds
for design speed < 50 mph	10-Year (without shoulder)
for design speed > 50 mph	25-Year (without shoulder)
Minor Arterial, Collector, Local Roads (Classification)	10-Year

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Check Storm	Use a design intensity of 6.5 in/hr
Depressed Roadways (Regardless of Classification)	100 year hydraulic grade line check storm

INLET DESIGN (For Storm Sewer Systems)

Principal Arterial (Classification)

(Design Speed > 50 mph)

- | | |
|----------------------|---------|
| i. With shoulder | 10-Year |
| ii. Without shoulder | |
| a. Grade | 10-Year |
| b. Sag | 50-Year |

Minor Arterials, Collectors, and Local Roads (Classification)

- | | |
|----------------------|-------------------------------------|
| i. With shoulder | Use a design intensity of 4 in/hr |
| ii. Without shoulder | Use a design intensity of 4 in/hr |
| iii Check Storm | Use a design intensity of 6.5 in/hr |

Bridge of Major Culvert

FEMA classified crossings:

No increase to the 100-year floodplain elevation by more than 1.0 foot and/or no anticipated damage to upstream properties (subject to CLOMR/LOMR approval).

Non-FEMA classified crossings:

No increase to the 100-year flood event elevation by more than 1.0-foot and/or no anticipate damage to upstream properties

3 BRIDGE DESIGN CRITERIA

3.1 Specifications

Refer to Technical Requirements (Standards and Specifications) for applicable specifications.

3.2 Design:

Standards as stated in Attachment 1.4A.

3.3 Design Method

Load Factor Design.

3.4 Live Load Design Capacity

MS 22 Loading and Alternate Military Loading (or English equivalents). (Phase VIII only)

HS 25 Loading and Alternate Military Loading.

3.5 Units

Metric Units (or English equivalents) for Phase VIII only.

Imperial (English) Units for remainder of project.

3.6 Bridge Railing/Parapet

Bridge railing/parapets shall be selected from FHWA crash tested candidates, specifically, the standard F-Shape concrete parapet.

3.7 Deck Thickness

The minimum deck thickness shall be in accordance with Volume V-Part 2 of the Manual of the Bridge Division.

3.8 Unit Weight of Concrete

Reinforced Concrete shall be 23 kN/m³ (150 pcf).

3.9 Reinforced Concrete

Reinforced Concrete shall be designed in accordance with Section 8 – REINFORCED CONCRETE of the 1996 AASHTO specifications including VDOT Modifications to these specifications. Reinforcing steel shall conform to ASTM A615, Grade 60. Epoxy Coated bars shall be used in the areas listed under Section 8.22.6 of the AASHTO Specifications, as modified by VDOT. Low permeability concrete shall be used for the entire structure including piles.

3.10 Prestressed Concrete

Prestressed Concrete shall be designed in accordance with Section 9 – PRESTRESSED CONCRETE of the current AASHTO specifications including VDOT Modifications to these specifications. High Performance Concrete ($f'c > 8000$ psi) may be used in prestressed beams. Beams will be continuous for live load.

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

3.11 Future Wearing Surface

A future wearing surface of 0.7 kN/m² (15 psf) shall be applied to the deck area.

3.12 Construction Tolerances

A construction tolerance load of 1.0 kN/m² (20 psf) shall be applied to the non-composite sections of precast concrete beam spans with cast-in-place slabs.

3.13 Reinforcing Cover

The minimum concrete cover for reinforcing and prestressing steel shall conform to VDOT modifications to AASHTO.

3.14 Wind Loads

Wind loads shall be as specified in AASHTO.

3.15 Earthquake Loading

Earthquake loads shall be as specified in VDOT Modifications to AASHTO.

3.16 Standard Details

The Department will furnish, upon request, electronic copies of the Department's standard details. These standards shall be used to the maximum extent possible in the development of the plans.

3.17 Deck Drainage System

Exposed downspouts shall be galvanized steel pipe. Embedded downspouts shall be either galvanized steel pipe or Schedule 40 PVC pipe. All hardware components shall conform to requirements of Section 226 of the Specifications and shall be galvanized steel. System shall be designed to minimize maintenance activity (min. 8" diameter pipes or pipes of equivalent areas shall be used) as well as avoid interference with aesthetics of the bridge. Provisions should be made to provide clean-outs in the pipe and downspout systems. To the extent possible, pipes and downspouts should be hidden or coordinated with the architectural design of the bridge and they should be pitched at 4 percent or greater slope to achieve self-cleansing velocities.

3.18 Load Rating

New and rehabilitated bridges shall have their superstructures analyzed for load ratings using Load Factor Design method in accordance with Structure and Bridge Division I&I Memorandum Number S&B-27.5, and Vol. VII of the Manual of Structure and Bridge Division. Vehicles for ratings shall be HS20 design vehicle, Virginia Legal Loads Vehicle (54K and 80K) and Blanket Permit Vehicle (90K and 115K). The software used shall be VIRTIS, as opposed to BARS, which is quoted in above reference(s) documents but now considered obsolete by VDOT.

4 GEOTECHNICAL DESIGN CRITERIA

Soil Design Parameters for Sound Barrier Walls and Retaining Walls Revised , September 12, 2007

4.1 Correlations of Soil Properties

This document is a summary of correlations between N60 values and general stratigraphic soil properties for use in design of foundations for sound barrier walls, retaining walls and other structures. Although more specific correlations may exist, the following general strata properties have been synthesized for design purposes. These general strata properties have been determined based upon numerous correlations in the referenced literature, laboratory test results and engineering experience with local soils in Northern Virginia. The SPT N60 values are derived from Nfield values that are corrected for hammer energy, CE, and length of rods, CR. Gravel inclusions may increase individual Nfield values. Design soil parameters for strata containing gravel inclusions should be chosen by excluding outlier N values. The design values recommended in this document are reasonably conservative to allow for variation of properties between borings and current levels of field quality control during construction. The design parameters in this document must be used laboratory testing is performed to support the use of less stringent parameters.

4.1.1 Culpeper Basin Physiographic Province

Soils in the Culpeper Basin are derived from weathering of the in-place sedimentary rocks such as siltstone, shale and sandstone. These rocks are often interbedded and weaker strata can sometimes underlie stronger upper strata. They generally dip at 5 to 25 degrees in a west to south-west direction with the steeper angles in the eastern portion of the basin. Intrusions of igneous diabase have thermally metamorphosed these sedimentary rocks to form hornfels. Isolated pockets of soluble limestone exist near Leesburg. The depth of weathering is variable but is generally less than 2 to 3 feet in areas of sandstone but can be up to 10 to 15 feet in areas of diabase. The following are typical strata descriptions and associated properties:

Stratum I - Upper Zone/Soil -This stratum comprises near-surface soils, typically of the A and B horizons which have a homogenous structure. They are generally of medium to high plasticity and are classified as CL, ML, CH, MH and CI-MH. In areas of diabase, the clays are known locally as "blackjack". Typical SPT N60 values range from 3 to 30 bpf. Typical thickness is 0 to 3 feet. This stratum may not be present in all areas.

Table 1: Typical Engineering Design Properties (Upper Zone/Soil)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
I-A	≤ 5	200 (9.6 kPa)	18	105 (16.8 kN/m ³)	112 (17.9 kN/m ³)
I-B	$>5 \leq 20$	250 (12 kPa)	20	110 (17.6 kN/m ³)	117 (18.7 kN/m ³)
I-C	>20	350 (16.8 kPa)	25	115 (18.4 kN/m ³)	122 (19.5 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Stratum II - Residuum - This stratum comprises soils that have weathered from the parent bedrock but can be excavated with power equipment. Residuum commonly retains the structure of the parent bedrock but contains additional fractures and partings with less than 10% unweathered rock fragments. They are generally of low plasticity or non-plastic, are usually classified as SC, SM, CL or ML and often contain boulders (diabase) or platy unweathered rock fragments (siltstone/shale). In areas of diabase, sands are known locally as "jacksands". Typical SPT N60 values range from 5 to 60 bpf.

Typical thickness is 1 to 7 feet.

Table 2: Typical Engineering Design Properties (Residuum)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
II-A	≤ 10	100 (4.8 kPa)	26	115 (18.4 kN/m ³)	122 (19.5 kN/m ³)
II-B	$>10 \leq 30$	100 (4.8 kPa)	30	120 (19.2 kN/m ³)	127 (20.3 kN/m ³)
II-C	>30	100 (4.8 kPa)	34	130 (20.8 kN/m ³)	137 (21.9 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Stratum III – Decomposed/Weathered Rock - Decomposed or weathered rock is defined material with SPT N60 values greater than 60 bpf, Core Recovery <85% and RQD<50%.

Table 3: Typical Engineering Design Properties (Decomposed/Weathered Rock)

Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
III	>60	250 (12 kPa)	36	132 (21.1 kN/m ³)	139 (22.2 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Rock - Unweathered rock consists of siltstone, shale sandstone or diabase with SPT N60 values greater than 100/2", Core Recovery >85% and RQD>50%.

Table 4: Typical Engineering Design Properties (Rock)

Stratum	RQD (%)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
IV	>50	400 (19.2 kPa)	42	135 (21.6 kN/m ³)	143 (22.9 kN/m ³)

Notes:

Natural condition, above the groundwater table

Attachments to Exhibit N – Technical Requirements

Attachment 1.5B

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Fill Soils (Siltstones/Shales/Diabase) - These soils consist of compacted fill derived from soils/weathered rock of stratum II or III above. Highly plastic clays of stratum I are not suitable as embankment fill. Weathered rock of stratum III often degrades over time to form soil with properties of stratum II.

Table 5: Typical Engineering Design Properties (Fill Soils – Siltstone/Shales/Diabase)

Stratum	Degree of Compaction	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
FILL	>95% of VTM-1	150 (7.2 kPa)	20	115 (18.4 kN/m ³)	122 (19.5 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Groundwater - Groundwater is generally not encountered in the upper (soil/residuum) strata. Perched water is often encountered on the surface and overlying unweathered bedrock. A caved borehole is usually indicative of groundwater due to the typical low plasticity of stratum II soils.

4.1.2 2. Piedmont Physiographic Province

Soils in the Piedmont Province are derived from weathering of the in-place metamorphic rocks such as schist, mica schist, gneiss and phyllite. The depth of weathering is highly variable and depends upon the mineralogy of the parent rock. The following are typical strata descriptions and associated properties:

Stratum I - Upper Zone/Soil - This stratum comprises near-surface soils, typically of the A and B horizons, which have a homogeneous structure. There is no evidence of a relict rock structure. These soils are generally of low to medium plasticity and are classified as CL, ML or CL-ML. Higher plasticity soils (MH) are occasionally encountered and are also included in this stratum. Typical SPT N60 values range from 5 to 50 bpf. Typical thickness is 0 to 3 feet.

Table 1: Typical Engineering Design Properties (Upper Zone/Soil)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
I-A	≤ 5	200 (9.6 kPa)	18	105 (16.8 kN/m ³)	107 (17.1 kN/m ³)
I-B	>5≤20	250 (12 kPa)	20	110 (17.6 kN/m ³)	117 (18.7 kN/m ³)
I-C	>20	350 (16.8 kPa)	25	115 (18.4 kN/m ³)	127 (20.3 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

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Stratum II - Saprolite - This stratum comprises soils that retain the relict rock structure of the parent bedrock but are soft enough to be excavated with a shovel or light mechanical equipment. Joints are often filled with manganese or other oxides and clay. They are generally non-plastic or of low plasticity, are usually classified as ML or SM and often contain significant amounts of mica. Occasional quartz gravel may be encountered. Typical SPT N60 values range from 5 to 60 bpf. Typical thickness is 1 to 50 feet.

Table 2: Typical Engineering Design Properties (Saprolite)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
II-A	≤ 10	50 (2.4 kPa)	28	95 (15.2 kN/m ³)	102 (16.3 kN/m ³)
II-B	$>10 \leq 30$	50 (2.4 kPa)	30	118 (18.9 kN/m ³)	125 (20 kN/m ³)
II-C	>30	50 (2.4 kPa)	32	130 (20.8 kN/m ³)	137 (21.9 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Stratum III – Decomposed/Weathered Rock - Decomposed or weathered rock is defined as material with SPT N60 values greater than 60 bpf, Core Recover) <85% and RQD<50%.

Table 3: Typical Engineering Design Properties (Decomposed/Weathered Rock)

Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
III	>60	250 (12 kPa)	34	120 (19.2 kN/m ³)	128 (20.5 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Rock- Unweathered rock consists of schist, mica schist, granite, gneiss or phyllite with SPT N60 values greater than 100/2", Core Recovery >85% and RQD>50%.

Table 4: Typical Engineering Design Properties (Rock)

Stratum	RQD (%)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
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IV	>50	400 (19.2 kPa)	40	130 (20.8 kN/m ³)	138 (22.1 kN/m ³)
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Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Fill Soils (Micaceous Silt) - These soils consist of compacted fill derived from soils of stratum I, II or III, above. They generally lose their relict rock structure during compaction and form a homogeneous soil matrix.

Table 5: Typical Engineering Design Properties (Micaceous Silt Fill Soils)

Stratum	Degree of Compaction	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight ¹ (pcf)	Saturated Unit Weight ^{2, 3} (pcf)
FILL	>95% of VTM-1	150 (7.2 kPa)	20	105 (16.8 kN/m ³)	112 (17.9 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Groundwater - Depth to groundwater is typically greater than 15 feet. Groundwater is frequently not encountered on higher elevations but springs often occur due to relict fractures in the saprolite structure. A caved borehole is usually indicative of groundwater due to the typical low plasticity of the native soils.

4.1.3 Coastal Plain Physiographic Province

The Coastal Plain comprises a "wedge" of non-consolidated soils which have been deposited east of the Fall Line (roughly east of 1-95). This wedge of soils consists of interbedded sand, silt, and clay that gradually thickens towards the east and is underlain by crystalline rocks of the Piedmont Province at depths of 300 to 500 feet near the Potomac River. Terraces of sand and gravel (up to 60 feet thick) are often encountered over Cretaceous Age ("marine") clays just east of the Fall Line. "Marine" clays are classified as Problem Soils by Fairfax County due to their potential for slope instability and shrink-swell characteristics.

Stratum A - Alluvial - Alluvial deposits can be either fine- or coarse-grained near surface soils that have been deposited by streams, rivers or in a depositional manner from higher elevations with homogeneous structures. These soils are generally non-plastic to medium plasticity and are classified as CL, ML, SP, SM with minor mounts of CH, MH, SC and GP. Typical SPT N60 values are less than 15 bpf. Typical thickness is 0 to 20 feet. This stratum may not be present in all areas.

Table 1: Typical Engineering Design Properties (Alluvial Soils)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight ¹ (pcf)	Saturated Unit Weight ^{2, 3} (pcf)
A-I	≤ 5	50 (2.4 kPa)	28	100 (16 kN/m ³)	107 (17.1 kN/m ³)

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A-II	>5≤20	50 (2.4 kPa)	30	108 (17.3 kN/m ³)	115 (18.4 kN/m ³)
A-III	>20	50 (2.4 kPa)	32	115 (18.4 kN/m ³)	122 (19.5 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Stratum T - Terrace - These soils generally consist of coarse-grained silty and clayey sands and gravels with discontinuous lenses and thin layers of silts and clays. They are generally of low to medium plasticity but lenses of clay can be highly plastic. Typical SPT N60 values range from 5 to 50 bpf. Typical thickness is 5 to 40 feet.

Table 2: Typical Engineering Design Properties (Terrace Deposits)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight ¹ (pcf)	Saturated Unit Weight ^{2, 3} (pcf)
T-I	≤ 10	150 (7.2 kPa)	26	105 (16.8 kN/m ³)	112 (17.9 kN/m ³)
T-II	>10≤30	150 (7.2 kPa)	30	115 (18.4 kN/m ³)	122 (19.5 kN/m ³)
T-III	>30	150 (7.2 kPa)	34	125 (20 kN/m ³)	132 (21.1 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Stratum P - Potomac Formation - These soils generally consist of interbedded highly plastic and medium plasticity clays with lenses and thin layers of silt and sand and are classified as CH, MH, CL and ML. Clays are generally highly overconsolidated and can contain "slickensides" which are indicative of extremely effective residual friction angles. Typically blue-gray clays are locally termed "marine clays". Below a weathered zone with SPT N60 values of 10 to 30 bpf, SPT N60 values typically range from 30 to >100 bpf. Typical thickness is 5 to 40 feet.

Table 3: Typical Engineering Design Properties (Potomac Formation)

Sub-Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight ¹ (pcf)	Saturated Unit Weight ^{2, 3} (pcf)
T-I	≤ 10	150 (7.2 kPa) ⁴	204	100 (16 kN/m ³)	107 (17.1 kN/m ³)
T-II	>10≤30	250 (12 kPa) ⁴	244	110 (17.6 kN/m ³)	117 (18.7 kN/m ³)
T-III	>30	350 (16.8 kPa) ⁴	284	120 (19.2 kN/m ³)	127 (20.3 kN/m ³)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

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Table 4: Typical Engineering Design Properties (Decomposed/Weathered Rock)

Stratum	SPT N60 Value (bpf)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
III	>60	250 (12 kPa)	34	120 (19.2 kN/m3)	128 (20.5 kN/m3)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Rock - Unweathered rock consists of schist, mica schist, granite, gneiss or phyllite with SPT N60 values greater than 100/2", Core Recovery >85% and RQD>50%.

Table 5: Typical Engineering Design Properties (Rock)

Stratum	RQD (%)	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
IV	>50	400 (19.2 kPa)	40	130 (20.8 kN/m3)	138 (22.1 kN/m3)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Fill Soils (Sands, Clays, Silts) - These soils consist of compacted fill derived from soils of strata A, P or T, excluding "marine" clay which is unsuitable for use as embankment fill.

Table 6: Typical Engineering Design Properties (Fill Soils - Coastal Plain)

Stratum	Degree of Compaction	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Moist Unit Weight1 (pcf)	Saturated Unit Weight2, 3 (pcf)
FILL	>95% of VTM-1	150 (7.2 kPa)	20	110 (17.6 kN/m3)	117 (18.7 kN/m3)

Notes:

Natural condition, above the groundwater table

Saturated condition, below the groundwater table

Submerged (or buoyant) unit weight = Saturated unit weight - Unit weight of water

Groundwater - Depth to groundwater is highly variable but is generally greater than 30 feet near the Fall Line. Groundwater is often encountered within a few feet of the surface adjacent to the Potomac River. Perched water tables are frequently encountered above clays of the Potomac Formation and "quick" or

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“running” sand conditions are typically encountered in soils overlying weathered rock or in layered clay deposits.

4.2 References:

- Gardner, S.W., "Design of Drilled Piers in the Atlantic Piedmont", Proceedings, Foundations and Excavations in Decomposed Rock of the Piedmont Province, ASCE, Geotechnical Special Publication No. 9, 1987
- White, R.M. and Richardson, T.L., "Investigation of Excavatability in the Piedmont, Proceedings, Foundations and Excavations in Decomposed Rock of the Piedmont Province, ASCE, Geotechnical Special Publication No. 9, 1987
- Wilson, C. and Martin, R., "Embankment Dams in the Piedmont/Blue Ridge Province", Proceedings, Design with Residual Materials, ASCE, Geotechnical Special Publication No. 63, 1996
- Peterson, M., Brand, S, Roldan, R, and Sommerfield, G., "Residual Soil Characterization for a Power Plant", Proceedings, Behavioral Characteristics of Residual Soils, ASCE, Geotechnical Special Publication No. 92, 1999
- Obermeier, S.F. and Langer, W.H., "Relationships between Geology and Engineering Characteristics of Soils and Weathered Rocks of Fairfax County and Vicinity, Virginia", U.S. Geological Survey Professional Paper 1344. 1986
- Bowles, J.E., "Physical and Geotechnical properties of Soils", 2nd. Edition, McGraw-Hill, 1985
- "Steel Sheet Pile Design Manual" Pile Buck, 1987
- Hunt, Roy E., "Geotechnical Engineering Techniques and Practices", McGraw-Hill, 1986

4.3 Standard Penetration Test (SPT) "N" Value Correction to N60

Based upon our experience, the most significant corrections are for hammer energy, CE, and length of rods, CR. Corrections for automatic hammers have been recognized on projects where N values determined with automatic hammers are significantly less than N values determined with safety hammers. While there may be small differences in efficiency between different automatic hammers, we have assumed a 95% efficiency for automatic hammers and a 60% efficiency for safety hammers. This results in a hammer energy correction factor of 1.58 (95/60) for automatic hammers and a correction factor of 1 for manual hammers. The correction factors for length of rods are taken from Youd and Idriss, 1977, as follows:

Table 1: Rod Length Correction Factor, CR (after Youd and Idriss, 1997)

Rod Length (feet)	CR
<13	0.75
13-20	0.85

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Rod Length (feet)	CR
20-30	0.95
30-100	1.00
>100	<1.00

$$N_{60} = N_{field} \times CE \times CR$$

Although there are other correction factors for overburden, borehole diameter, liners, Anvils, blow count frequency and hammer cushions, these have not been applied since they tend to unreasonably increase the corrected N value, based upon our experience. =

4.3.1 Metric Conversion Factors

$$1 \text{ pcf} = 0.16 \text{ kN/m}^3$$

$$1 \text{ psf} = 0.0479 \text{ kPa}$$

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4.3.2 Manual Hammer (60% Efficiency) – CF = 1

	<4m	4m – 6 m	6.1m – 10m	10m-30m	>30m
Nfield	<13'	13' – 20'	21' – 30'	31' – 100'	>100'
1	1	1	1	1	1
2	2	2	2	2	2
3	2	3	3	3	3
4	3	3	4	4	4
5	4	4	5	5	5
6	5	5	6	6	6
7	5	6	7	7	7
8	6	7	8	8	8
9	7	8	9	9	9
10	8	9	10	10	10
11	8	9	10	11	11
12	9	10	11	12	12
13	10	11	12	13	13
14	11	12	13	14	14
15	11	13	14	15	15
16	12	14	15	16	16
17	13	14	16	17	17
18	14	15	17	18	18
19	14	16	18	19	19
20	15	17	19	20	20
21	16	18	20	21	21
22	17	19	21	22	22
23	17	20	22	23	23
24	18	20	23	24	24
25	19	21	24	25	25
26	20	22	25	26	26
27	20	23	26	27	27
28	21	24	27	28	28
29	22	25	28	29	29
30	23	26	29	30	30

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	<4m	4m – 6 m	6.1m – 10m	10m-30m	>30m
Nfield	<13'	13' – 20'	21' – 30'	31' – 100'	>100'
31	23	26	29	31	31
32	24	27	30	32	32
33	25	28	31	33	33
34	26	29	32	34	34
35	26	30	33	35	35
36	27	31	34	36	36
37	28	31	35	37	37
38	29	32	36	38	38
39	29	33	37	39	39
40	30	34	38	40	40
41	31	35	39	41	41
42	32	36	40	42	42
43	32	37	41	43	43
44	33	37	42	44	44
45	34	38	43	45	45
46	35	39	44	46	46
47	35	40	45	47	47
48	36	41	46	48	48
49	37	42	47	49	49
50	38	43	48	50	50
51	38	43	48	51	51
52	39	44	49	52	52
53	40	45	50	53	53
54	41	46	51	54	54
55	41	47	52	55	55
56	42	48	53	56	56
57	43	48	54	57	57
58	44	49	55	58	58
59	44	50	56	59	59
60	45	51	57	60	60

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4.3.3 Automatic Hammer (95% Efficiency) – CF = 1.58 (95/60)

	<4m	4m – 6 m	6.1m – 10m	10m-30m	>30m
Nfield	<13'	13' – 20'	21' – 30'	31' – 100'	>100'
1	1	1	2	2	2
2	2	3	3	3	3
3	4	4	5	5	5
4	5	5	6	6	6
5	6	7	8	8	8
6	7	8	9	9	9
7	8	9	11	11	11
8	9	11	12	13	13
9	11	12	14	14	14
10	12	13	15	16	16
11	13	15	17	17	17
12	14	16	18	19	19
13	15	17	20	21	21
14	17	19	21	22	22
15	18	20	23	24	24
16	19	21	24	25	25
17	20	23	26	27	27
18	21	24	27	28	28
19	23	26	29	30	30
20	24	27	30	32	32
21	25	28	32	33	33
22	26	30	33	35	35
23	27	31	35	36	36
24	28	32	36	38	38
25	30	34	38	40	40
26	31	35	39	41	41
27	32	36	41	43	43
28	33	38	42	44	44
29	34	39	44	46	46
30	36	40	45	47	47

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	<4m	4m – 6 m	6.1m – 10m	10m-30m	>30m
Nfield	<13'	13' – 20'	21' – 30'	31' – 100'	>100'
31	37	42	47	49	49
32	38	43	48	51	51
33	39	44	50	52	52
34	40	46	51	54	54
35	41	47	53	55	55
36	43	48	54	57	57
37	44	50	56	58	58
38	45	51	57	60	60
39	46	52	59	62	62
40	47	54	60	63	63
41	49	55	62	65	65
42	50	56	63	66	66
43	51	58	65	68	68
44	52	59	66	70	70
45	53	60	68	71	71
46	55	62	69	73	73
47	56	63	71	74	74
48	57	64	72	76	76
49	58	66	74	77	77
50	59	67	75	79	79
51	60	68	77	81	81
52	62	70	78	82	82
53	63	71	80	84	84
54	64	73	81	85	85
55	65	74	83	87	87
56	66	75	84	88	88
57	68	77	86	90	90
58	69	78	87	92	92
59	70	79	89	93	93
60	71	81	90	95	95

Attachment 1.5C Design Exceptions and Waivers

Attachment 1.5C: Schedule of Design Exceptions and Design Waivers

1 Design Exceptions

The anticipated design exceptions are listed in following tables with the referenced design exception documentation attached.

Type	No.	Description	VDOT Approval	FHWA Approval
		Design Exceptions		
DE	1	Gallows Rd. ramp GES acceleration length.	12/01/07	tbd
DE	2	Reduced shoulder width due to channelizer posts in 4' buffer.	12/18/07	tbd
DE	3	No shoulder/shy lines on 2 lane HOT ramps	05/18/07	06/18/07
DE	4	Reduced shoulder widths on HOT ramps	tbd	tbd
DE	5	L.R.Tpke ramp LRWN design speed.	12/16/07	06/18/07
DE	7	Ramp 66WN - insufficient distance to develop a two lane exit.	tbd	tbd
DE	8	Ramp 66WSH radius.	12/16/07	tbd
DE	9	Leesburg Pike ramp LSW design speed.	12/13/07	06/18/07
DE	10R	Route 7 - S.B. C-D roadway exit gore to entrance ramp distance.	11/20/07	06/18/07
DE	11	I-495 mainline superelevation rates.	05/18/07	06/21/07
DE	12	Superelevation transition lengths.	11/20/07	06/18/07
DE	13	Reduced mainline shoulder width.	11/20/07	06/18/07
DE	14	Exit ramp recovery areas (Reduced shoulder width).	11/20/07	06/18/07
DE	15	L.R.Tpke ramp LRWS superelevation transition.	12/02/07	06/18/07
DE	16	I-66 interchange ramp NW	tbd	06/21/07
DE	18	Distance btw'n successive ramp terminals Chain Br. Rd. & Jones Branch connector	05/25/07	06/21/07

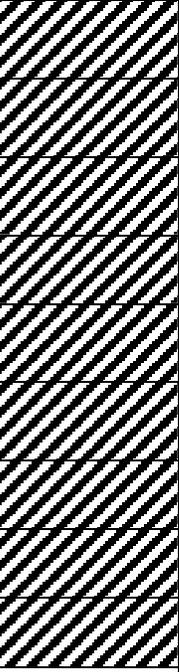
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Type	No.	Description	VDOT Approval	FHWA Approval
DE	19	Sight distance	12/13/07	tbd
DE	20	Reduced shoulders for encroachments due to bridge piers	12/16/07	tbd
DE	21	Reduced shoulders in Phase VIII project limits to accommodate 4' buffer (VDOT requested address with 7'-10" HOT lanes shoulder)	05/25/07	06/18/07
DE	22	Reduced shoulders for encroachments due to sign structures and toll gantries.	05/25/07	tbd
DE	24	Distance btw'n successive ramp terminals (Phase VIII) HE-N/HW-N and HEW-N/I-95 HOV	05/25/07	06/21/07
DE	25	Ramp HS-W Acceleration Length	05/25/07	06/18/07
DE	26	Leesburg Pike ramp LNE design speed	12/16/07	06/18/07
DE	29	Mainline compound curves with radii more than 1.5 to 1 ratio.	12/13/07	tbd
DE	30	Ramp compound curves with radii more than 2 to 1 ratio.	tbd	tbd
DE	31	Distance btw'n successive terminals CD Road ACNS and Ramp GNW	12/13/07	tbd
DE	32	Gallows Road Ramp GES reduced decel lane length	12/16/07	tbd
DE	40	Distance btw'n successive terminals Ramp TWNH (Entrance) and Ramp JBSEW (Exit)	12/13/07	tbd
DE	42	Ramp NBH2NB exit from NBH reduced decel lane length	12/13/07	tbd
DE	43	NBH and SBH bridges reduced right shoulder	tbd	tbd
DE	45	Little River Turnpike ramps LRNW and LRWS no accel/decel lanes at terminal entrance/exit to Rte. 236	12/16/07	tbd
DE	46	Ramps HE-S and HS-W (Phase VIII) increased max grade to 8%	tbd	tbd
DE	49	Distance between successive terminals Ramp CWS (Exist) and Ramp LNW (Entrance)	12/16/07	tbd
DE	52	Widening Transition for Two-lane Exit Terminal	12/13/07	tbd
	53	Shoulder width for reversible lanes (Phase VIII)	tbd	tbd
DE	54	Vertical Clearance I-495 Bridges over DTR and DAAR	tbd	tbd
DE = Design Exception				

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2 Design Waivers

The anticipated design waivers are listed in Table 2 (Schedule of Agreed Design Waivers) with the referenced design waiver documentation attached to the appendix.

Type	No.	Description	Central Office Approval	FHWA Approval	
		Design Wavers			
DW	1	Mainline curves shorter than AASHTO minimum of 15 X design speed (1,050' for 70 mph).	12/16/07		
DW	2	Idlywood Rd. curves shorter than AASHTO minimum 15 X design speed	12/13/07		
DW	3	Vertical curves shorter in length than AASHTO minimum 3 X design speed	tbd		
DW	4	Little River Turnpike ramp LRNE reduced radius	12/13/07		
DW	8	Ramps BNEWH and BEWNH use of urban superelevation criteria at intersection approach.	12/13/07		
DW	9	Ramp 66SWH bridge over I-66 EB reduced right shoulder	12/13/07		
DW	10	Idylwood Road increased maximum grade	12/13/07		
DW	11	Rte 50 CD Lanes - 4' shoulder	tbd		
DW	12	Cross-over spacing	tbd		
DW = Design Waiver					

Attachment 1.5D - Division I Amendments to the Standard Specifications

Attachments to Exhibit N – Technical Requirements
Attachment 1.5D

Division I Amendments To the Standard Specifications
General Provisions for the Route 495 HOT Lanes in Virginia Project
Between the Virginia Department of Transportation and the Concessionaire

These Division I Amendments supersede Division I of the 2002 Standard Specifications

SECTION 101—DEFINITIONS OF ABBREVIATIONS, ACRONYMS, AND TERMS

101.01—Abbreviations and Acronyms.

Abbreviations and Acronyms shall be as stated in Section 101.01 of the Standard Specifications.

101.02—Terms.

In these Specifications and in other contract documents, the following terms and pronouns used in place of them shall be interpreted as follows, except that if such terms and pronouns are defined in the Agreement, such definitions shall govern:

-A-

Agreement. The Concession Agreement between Department and Concessionaire.

Alkali soil. Soil in which total alkali chlorides calculated as sodium chloride are more than 0.10 percent based on total solids.

Award. The date of financial close as defined in the ARCA

Award date. The date on which financial close has occurred.

-B-

Backfill. Material used to replace or the act of replacing material removed during construction; may also denote material placed or the act of placing material adjacent to structures.

Balance point. The approximate point, based on estimated shrinkage or swell, where the quantity of earthwork excavation and borrow, if required, is equal to the quantity of embankment material plus any surplus excavation material.

Base course. A layer of material of specified thickness on which the intermediate or surface course is placed.

Base flood. The flood or tide having a one percent chance of being exceeded in any given year.

Board. Commonwealth Transportation Board of Virginia.

Borrow. Suitable material from sources outside the roadway that is used primarily for embankments.

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Brackish water. Water in which total alkali chlorides calculated as sodium chloride are more than 0.10 percent based on total solids.

Bridge. A structure, including supports, that is erected over a depression or an obstruction, such as water, a highway, or a railway, that has a track or passageway for carrying traffic.

-C-

Calendar day. Any day shown on the calendar.

Camber. A vertical curvature induced or fabricated into beams or girders and a deck slab or slab span formwork; a vertical curvature set in the grade line of a pipe culvert to accommodate differential settlement.

Channel. A water course or drainage way.

Commissioner. Commonwealth Transportation Commissioner.

Composite hydrograph. A graph showing the mean daily discharge versus the calendar day, indicating trends in high and low flow for a one year period.

Construction area. The area where authorized construction occurs.

Construction limits. The intersection of side slopes, including slope rounding, with the original ground, plus slopes for drainage ditches or incidental construction.

Contract item. A specifically described unit of work for which a price is provided in the Agreement.

Contract time limit. The number of calendar days or calendar date that specifies the time allowed for completion of the work described in the Agreement, including authorized extensions.

Concessionaire. Any individual, partnership, corporation, or joint venture that enters into a concession agreement with the Department.

Contractor. Any individual, partnership, corporation, or joint venture under contract with the Concessionaire to perform any of the Work.

Cul-de-sac. An area at the terminus of a dead-end street or road that is constructed for the purpose of allowing vehicles to turn around.

Culvert. A structure that is not classified as a bridge which provides an opening under any roadway.

Cut. The portion of a roadway formed by excavating below the surface of the earth.

-D-

Day. Unless otherwise stated, a calendar day.

Deflection. The vertical movement occurring between the supports of a bridge superstructure or its components (beams, girders, and slabs) that results from their own weight and from dead and live loads. Although all parts of a structure are subject to deflections, usually only those deflections that occur in the superstructure are of significance during construction.

Department. Virginia Department of Transportation (VDOT).

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Design-Build Contractor. The Contractor as defined as such in the Agreement

Design Consultant. A qualified, licensed design professional, eligible to provide professional engineering and/or land surveying services in the Commonwealth of Virginia, who is not an employee of the Concessionaire, but is retained by the Concessionaire, or employed or retained by anyone under contract with the Concessionaire or subcontractor, to furnish design services required under the Agreement.

Design flood. The magnitude of flood that a given structure can convey without exceeding a designated flood level.

Disincentive. A monetary deterrent used to discourage the Concessionaire from exceeding the contract time limit.

Disposable material. Material generally found to be unsuitable for roadway construction or material that is surplus.

Disposal areas. Areas generally located off the project right of way where unsuitable or surplus material is deposited.

Drainage ditch. An artificial depression constructed to carry off surface water.

-E-

Earthwork. The work consisting of grubbing, drainage, roadway excavation, embankment excavation, borrowing, grading, placing rock, and preparing subgrades.

Easement (Right of way). A grant of the right to use property for a specific use.

Embankment. A structure of soil, soil aggregate, or broken rock between the existing ground and subgrade.

Employee. Any person working on the Project specified in the Agreement who is under the direction or control of or receives compensation from Concessionaire or any Subcontractor.

Engineer. The Chief Engineer, who acts directly or through his duly authorized representative. The representative acts within the scope of the particular duties assigned to him or the authority given to him.

Equipment. Machinery, tools, and other apparatus, together with the necessary supplies for upkeep and maintenance, that are necessary for acceptable completion of the work.

Extra work. An item of work that is not provided for in the Agreement as awarded but that is found to be essential to the satisfactory fulfillment of the Agreement within its intended scope.

-F-

Falsework. A framework of wood or steel used to support forms for the construction of concrete slab spans or t-beams, or provide temporary support for structural units during the construction or reconstruction of permanent supports.

Federal agencies or officers. An agency or officer of the federal government and any agency or officer succeeding in accordance with the law to the powers, duties, jurisdictions, and authority of the agency or officer mentioned.

Flood frequency. A statistical average recurrence interval of floods of a given magnitude.

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Force account work. Prescribed work of a contractual status performed by the Concessionaire and compensated for as specified in Section 109.05.

Formwork. A temporary structure or mold used to retain the plastic or fluid concrete in its designated shape until it hardens. Formwork shall be designed to resist the fluid pressure exerted by plastic concrete and additional fluid pressure generated by vibration and temporary construction loads.

Frontage street or road. A local street or road auxiliary to and located on the side of a highway for service to abutting property and adjacent areas and control of access.

-G-

Gage. U.S. Standard Gage.

Grade separation. Any structure that provides a traveled way over or under another traveled way or stream.

-H-

Highway. The entire right of way reserved for use in constructing or maintaining the roadway and its appurtenances.

Historical flood level. The highest flood level that is known to have occurred at a given location.

Holidays. The days specifically set forth in Section 105.09.

Hydrologic data sheet. A tabulation of hydrologic data for facilities conveying a 100 year discharge equal to or greater than 500 cubic feet per second.

-I-

Incentive. A monetary amount used to encourage the Concessionaire to complete work prior to the time limit specified in the Agreement.

Inspector. The Engineer's authorized representative who is assigned to make detailed inspections of the quality and quantity of the work and its conformance to the provisions of the Agreement.

Invert. The lowest point in the internal cross section of a pipe or other drainage structure.

-J-K-

Joint venture. Two or more individuals, partnerships, corporations, or combinations thereof that join together for the purpose of performing a contract.

-L-

Laboratory. The testing laboratory of the Department or any other testing laboratory that is accredited by AASHTO for each test it conducts for the Project, unless otherwise approved by the Department.

Liquidated damages. Damages as set forth in the Agreement, paid by the Concessionaire to the Department when the Concessionaire fails to complete the project within the time frame specified in the Agreement. These damages include, but are not limited to, additional costs associated with administration, engineering, supervision and inspection of the project.

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-M-

Material. Any substance that is used in the work specified in the Agreement.

Median. The portion of a divided highway that separates the traveled ways.

-N-

Notice to Proceed. A written notice to the Concessionaire that advises it of the date on which prosecution of the work shall begin.

-O-

Ordinary high water. A water elevation based on analysis of all daily high waters that will be exceeded approximately 25 percent of the time during any 12 month period.

Overtopping flood. The magnitude of flood that just overflows the traveled way at a given structure and/or on the approach traveled way of such structure.

-P-Q-

Pavement structure. The combination of subbase, base, and surface courses that is placed on a subgrade to support the traffic load and distribute it to the roadbed.

Pay item. A specifically described unit of work for which a price is provided in the Agreement.

Phase inspection. The inspection of work at predetermined stages in lieu of continuous inspection.

Plans. The approved plans and standard drawings, profiles, typical cross sections, computer output listings, supplemental drawings or exact reproductions thereof, and all subsequent approved revisions thereto that show the location, character, dimensions, and details of the work required or permitted by the Agreement.

Prequalification. The procedure used to assure the Department of the Concessionaire's ability to perform the work, experience in similar work, and sufficiency of equipment to accomplish the work.

Profile grade. The line of a vertical plane intersecting the top surface of the proposed wearing surface, usually along the longitudinal center line of the roadbed.

Project. The work required or permitted to be performed in the Agreement.

QA Manager (QAM). The Concessionaire's designee responsible for providing Quality Assurance and reviewing Quality Control of the Work, and ensuring conformance with the Agreement.

-R-

Ramp. A connecting roadway between two highways or traveled ways or between two intersecting highways at a grade separation.

Right of way. A general term denoting land, property, or interest therein, usually in a strip, that is acquired for or devoted to transportation facilities but is not meant to denote the legal nature of ownership.

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Road. A general term denoting a public way for purposes of vehicular travel including the entire area within the right of way; the entire area reserved for use in constructing or maintaining the roadway and its appurtenances.

Roadbed. The graded portion of a highway within the top and side slopes that is prepared as a foundation for the pavement structure and shoulders.

Roadbed material. The material below the subgrade in cuts, embankments, and embankment foundations that extends to a depth which affects the support of the pavement structure.

Roadside. A general term that denotes the area within the right of way that adjoins the outer edges of the roadway; extensive areas between the roadways of a divided highway.

Roadside development. Items that are necessary to complete a highway that provide for the preservation of landscape materials and features; rehabilitation and protection against erosion of areas disturbed by construction through placing seed, sod, mulch, and other ground covers; and such suitable plantings and other improvements as may increase the effectiveness and enhance the appearance of the highway.

Roadway. The portion of a highway within the limits of construction and all structures, ditches, channels, and waterways that is necessary for the correct drainage thereof.

-S-

Sea water. Water in which total alkali chlorides calculated as sodium chloride are more than 0.10 percent of total solids.

Select borrow. Borrow material that has specified physical characteristics.

Select material. Material obtained from roadway cuts, borrow areas, or commercial sources that is designated or reserved for use as a foundation for the subbase, subbase material, shoulder surfacing, or other specified purposes.

Shoulder. The portion of the roadway contiguous with the traveled way that is for the accommodation of stopped vehicles, emergency use, and lateral support of the base and surface courses.

Sidewalk. The portion of the roadway constructed primarily for the use of pedestrians.

Skew. The acute angle formed by the intersection of a line normal to the center line of the roadway with a line parallel to the face of the abutments or, in the case of culverts, with the center line of the culverts.

Special provision. A document that sets forth specifications or requirements for a particular project.

Specifications. A general term that includes all directions, provisions, and requirements contained herein and those that may be added or adopted as supplemental specifications, special provisions, or special provision copied notes. All are necessary for the proper fulfillment of the Agreement.

Standard drawings. Unless otherwise specified, applicable drawings in the Department's *Road and Bridge Standards* and such other standard drawings as are referred to on the plans.

Standard Specifications. The Department's *Road and Bridge Specifications*, 2002 or as superseded.

State. Commonwealth of Virginia.

Station. When used as a definition or term of measurement, 100 linear feet.

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Street. A general term denoting a public way for purposes of vehicular travel including the entire area within the right of way; the entire right of way reserved for use in constructing or maintaining the roadway and its appurtenances.

Structures. Bridges, culverts, catch basins, inlets, retaining walls, cribs, manholes, end walls, buildings, steps, fences, sewers, service pipes, underdrains, foundation drains, and other features that may be encountered in the work and are not otherwise classed herein.

Subbase. A layer(s) of specified or selected material of designed thickness that is placed on a subgrade to support a base course.

Subcontractor. Any person or entity retained by Concessionaire as an independent contractor to perform a portion of the Work and shall include material, men and suppliers.

Subgrade. The top surface of a roadbed shaped to conform to the typical section on which the pavement structure and shoulders are constructed.

Subgrade stabilization. The modification of roadbed soils by admixing with stabilizing or chemical agents that will increase the load bearing capacity, firmness, and resistance to weathering or displacement.

Substructure. The part of a structure that is below the bearings of simple and continuous spans, skewbacks of arches, and tops of footings of rigid frames, together with the back walls, wingwalls, and wing protection railings.

Superintendent. The executive representative of the Concessionaire, who is authorized to receive and fulfill instructions from the Department and who supervises and directs the construction.

Superstructure. The portion of a structure that is not defined as substructure.

Surface course. One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and disintegrating effects of weather. The top layer is sometimes called the wearing course.

Surplus material. Material that is present on a project as a result of unbalanced earthwork quantities, excessive swell, slides, undercutting, or other conditions beyond the control of the Concessionaire.

Suspension. A written notice issued by the Department to the Concessionaire that orders the work on a project to be stopped wholly or in part as specified. The notice will include the reason for the suspension.

-T-U-

Temporary structure. Any structure that is required to maintain traffic while permanent structures or parts of structures specified in the Agreement are constructed or reconstructed. The temporary structure shall include earth approaches.

Theoretical maximum density. The maximum compaction of materials that can be obtained in accordance with the values established VTM-1.

Ton. A short ton; 2,000 pounds avoirdupois.

Top of earthwork. The uppermost surface of the embankment excavation, exclusive of select material, that is shaped to conform with the typical section.

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Traveled way. The portion of the roadway for the movement of vehicles, exclusive of shoulders.

-V-

Vouchered. The action of approval by the Department; constitutes the date of release to the State Comptroller for payment.

-W-X-Y-Z-

Wearing course. See Surface course.

Work. All Concessionaire's design, construction and other services required by the Agreement, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Agreement.

Working drawings. Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data the Concessionaire is required to submit to the Department for review in accordance with the Agreement.

Work order. A written order issued by the Department to the Concessionaire that specifies changes in the plans or quantities or both within the scope of the Agreement and that establishes the basis of payment and time adjustments for the work affected by the changes. This also may be referred to as a Change Order.

SECTION 102—BIDDING REQUIREMENTS AND CONDITIONS

Sections 102.1 – 102.13 are not used – see Agreement.

102.14—Use of Debarred Suppliers.

In accordance with the requirements of Section 200.02, the Department will not approve for use any material furnished by a supplier debarred by the Department. The Concessionaire shall ascertain from the Department's listings which suppliers are debarred. Listings will be posted in the Engineer's office, VDOT, 1401 E. Broad Street, Richmond, Virginia, and in each district office. The Concessionaire shall ensure compliance with this Section 102.14.

If a previously debarred supplier is reinstated to eligibility subsequent to the award of a contract, the Department may approve the use of the supplier when requested by the Concessionaire.

SECTION 103—AWARD AND EXECUTION OF DESIGN-BUILD CONTRACTS

103.01 – Consideration of Bids.

Not used – See Agreement

103.02 – Award of Contract.

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Not Used – See Agreement

103.03 – Cancellation of Award.

Not used – See Agreement

103.04 – Return of Proposal Guaranty.

Not used – See Agreement

103.05 – Requirements of Contract Bond.

For Department Project Enhancements, the Concessionaire shall provide the following contract bonds unless other forms of securities such as Letter of Credit and terms and conditions are mutually agreed to between the Concessionaire and the Department

Within 15 calendar days after notification, the Concessionaire shall furnish the following bonds for contracts in excess of \$250,000.00:

- (a) a performance bond in the sum of one hundred percent (100%) of the Agreement amount, conditioned upon the faithful performance of the Agreement in strict conformity with the Agreement, and
- (b) a payment bond in the sum one hundred percent (100%) of the Agreement amount, conditioned upon the prompt payment for all labor, materials, public utility services and rental of equipment used in the prosecution of the work for the Agreement.

Offerors will not be awarded an unbonded Agreement when their proposal plus the balance of other unbonded contracts exceed \$250,000.00 or if their current Ability Factor is less than 8.0, as determined by their prequalification status.

The bonds shall be made on official forms furnished by the Department and shall be executed by the Concessionaire and a surety company authorized to do business in Virginia in accordance with the laws of Virginia and the rules and regulations of the State Corporation Commission. In order to be considered properly executed, the bonds shall include authorized signatures and titles.

In lieu of payment or performance bonds, the Concessionaire may furnish a certified check or cash escrow in the face amount required for each of the bonds, which will be held for the full statutory period as applicable for each bond.

Upon written request from the Concessionaire, the bonds may be reduced on contracts having planting items with an establishment period after acceptance of all work and during the establishment period. The amount of bonds for the duration of the remaining establishment period shall be equal to 35 percent of the total price of the planting items.

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103.06 – Contract Documents.

Not used – See Agreement

103.07 – Execution and Approval of Contract.

Not used – See Agreement

103.08 – Failure to Furnish Bonds or Certificate of Insurance.

With regard to Department Project Enhancements, failure to furnish the Department acceptable bonds, or other form of project security as agreed by the parties, workers' compensation insurance or bodily injury and property damage liability insurance policy within 15 calendar days after being notified of the award of the work order shall be considered just cause for cancellation of award. In such event, the Department may choose other means to advance the work.

SECTION 104—SCOPE OF WORK

104.01 – Intent of Agreement.

The intent of the Agreement is to provide for completion of the work specified therein or reasonably inferred from the Agreement.

104.02 – Alteration of Quantities or Character of Work.

Value Engineering Proposals (VEP): VEP applies to changes in scope proposed by the Concessionaire. The Concessionaire may submit to the Department written VEPs for modifying the plans, specifications, or other requirements of the Agreement for the purpose of reducing the total cost of construction without reducing the design capacity or quality of the finished product. If the VEP is accepted by the Department, the net savings will be equally divided by the Department and the Concessionaire.

Each VEP shall result in a net reduction of the Agreement cost without impairing essential functions and characteristics of the item(s) or of any other part of the Project, including, but not limited to, service life, reliability, economy of operation, ease of maintenance, aesthetics, and safety. At least the following information shall be submitted with each VEP:

- statement that the proposal is submitted as a VEP
- statement concerning the basis for the VEP and benefits to the Department and an itemization of the items and requirements in the Agreement affected by the VEP
- detailed estimate of the cost under the existing Agreement and under the VEP

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- proposed specifications and recommendations as to the manner in which the VEP changes are to be accomplished
- statement as to the time by which a contract work order adopting the VEP must be issued so as to obtain the maximum cost-effectiveness

The Department will process the VEP in the same manner as prescribed for any other proposal that would necessitate issuance of a work order. The Department may accept a VEP in whole or part by issuing a work order that will identify the VEP on which it is based. The Department will not be liable to the Concessionaire for failure to accept or act on any VEP submitted pursuant to these requirements or for delays in the work attributable to any VEP. Until a VEP is put into effect by a work order, the Concessionaire shall remain obligated to the terms and conditions of the existing Agreement. If an executed work order has not been issued by the date on which the VEP specifies that a decision should be made or such other date as the Concessionaire may subsequently have specified in writing, the VEP shall be deemed rejected.

The work order effecting the necessary modification of the Agreement will establish the net savings agreed on, provide for adjustment of the contract prices, and indicate the net savings. The Concessionaire shall absorb all costs incurred in preparing a VEP. Reasonably incurred costs for reviewing and administering a VEP will be borne by the Department. The Department may include in the agreement any conditions it deems appropriate for consideration, approval, and implementation of the VEP. The Concessionaire's 50 percent share of the net savings shall constitute full compensation to him for effecting all changes pursuant to the agreement.

Unless specifically provided for in the work order authorizing the VEP, acceptance of the VEP and performance of the work thereunder will not change the Agreement time limit.

The Department may adopt a VEP for general use in contracts administered by the Department if it determines that the VEP is suitable for application to other contracts. VEPs identical with or similar to previously submitted VEPs will be eligible for consideration and compensation under these provisions if they have not been previously adopted for general application to other contracts administered by the Department. When a VEP is adopted for general use, compensation pursuant to these requirements will be applied only to those awarded contracts for which the VEP was submitted prior to the date of adoption of the VEP.

Proposed changes in the basic design of a bridge or pavement type or that require different right-of-way limits will not normally be considered an acceptable VEP. If a VEP is based on or is similar to a change in the plans, specifications, or special provisions adopted by the Department prior to submission of the VEP, the Department will not accept the VEP.

The Department will be the sole judge of the acceptability of a VEP. The requirements herein apply to each VEP initiated, developed, and identified as such by the Concessionaire at the time of its submission to the Department. However, nothing herein shall be construed as requiring the Department to consider or approve a VEP.

Subject to the provisions contained herein, the Department or any other public agency shall have the right to use all or part of an accepted VEP without obligation or compensation of any kind to the Concessionaire.

104.03 – Differing Site Conditions.

Not used – See Agreement

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104.04 – Maintenance During Construction.

The Concessionaire shall maintain the work from the beginning of construction operations until Substantial Completion in accordance with the Agreement. Maintenance shall constitute continuous and effective work prosecuted day by day with adequate equipment and forces to such end that the roadway and structures, including barricades and warning signs as provided for in accordance with the requirements of Section 107.10, are maintained in a satisfactory condition at all times.

When the Agreement specifies placing a course on another course or subgrade previously constructed, the Concessionaire shall maintain the previous course or subgrade during all construction operations.

The GP Lanes shall be kept open to all traffic while undergoing improvements. The Concessionaire shall keep the portion of the project being used by public, pedestrian, and vehicular traffic in such condition that traffic will be adequately accommodated. However, removal of snow and control of ice on roads open to public travel will be performed by the Department.

The Concessionaire shall bear all costs of performing maintenance work before Substantial Completion as outlined in section 3.16 of the Technical Requirements and of constructing and maintaining necessary approaches, crossings, intersections, drainage, both existing and proposed, and that required during the construction operation and other features without compensation except as provided for in the Agreement. However, when the Concessionaire confines his operation to the surface of the roadway and reasonable width of the shoulder and the surface is not disturbed or damaged by his operations or equipment, he shall not be responsible for the maintenance of the surface that remains undisturbed or undamaged.

The Concessionaire shall keep the portions of the road being used by the public free from irregularities and obstructions that could present a hazard or annoyance to traffic. The Concessionaire shall alay dust whenever required, or when directed by the Department, and the cost shall be included in the Agreement. Holes in hard surface pavements shall be filled with approved asphalt patching material.

- (a) **Detours:** Detours will be as indicated in the MOT Plan and the TCP or in the special provisions or used with the approval of the Department. Detours over existing state roads will be designated, marked, and maintained by the Concessionaire. If any project is located wholly or in part within the corporate limits of a municipality and through traffic is to be detoured at the request of the municipality, the municipality will provide and maintain the detours within the corporate limits and will furnish and erect all directional markings. The Concessionaire will furnish and erect all directional markings for through traffic on off-project detours requested by the Department. The provision of detours and marking of alternate routes will not relieve the Concessionaire of the responsibility for ensuring the safety of the public or from complying with any requirements of these Specifications affecting the rights of the public, including those concerning lights and barricades. Maintenance of all other detours shall be the responsibility of the Concessionaire.

The Concessionaire shall acquire all Right-of-Way for temporary highways or bridges required by these provisions.

- (b) **Maintenance of Traffic During Suspension of Work:** During any suspension of work, the Concessionaire shall temporarily open to traffic such portions of the project and temporary roadways as may be agreed on by the Concessionaire and Department.
- (c) **Flagging Traffic:** Certified flaggers shall be provided in sufficient number and locations as necessary for control and protection of vehicular and pedestrian traffic in accordance with the requirements of *MUTCD*. Flaggers shall use sign paddles to regulate traffic in accordance with the requirements of *MUTCD*.

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Certification for flaggers will be awarded upon a candidate's satisfactory completion of an examination. Certification cards shall be carried by flaggers while performing flagging duties. Flaggers found not in possession of their certification card shall be removed from the flagging site and operations requiring flagging shall be suspended by the Concessionaire. Further, flaggers performing duties improperly will have their certifications revoked.

- (d) **Delays:** Unless otherwise approved, two-way traffic shall be maintained at all times. The Concessionaire shall not stop traffic without permission of the Department.

If one-way traffic is approved, the Concessionaire shall provide flaggers to direct the traffic. The Concessionaire shall provide flaggers and pilot vehicles in accordance with the requirements of Section 512, and the cost shall be included in the Agreement. Upon request from the Concessionaire and where deemed appropriate by the Department, the Department will install traffic signals that may be used for the control of one-way traffic. The Concessionaire shall pay the costs of installation, removal when no longer needed, electrical service, maintenance or repair work, and a predetermined rental charge per day for the signals.

- (e) **Connections and Entrances:** Connections with other roads and public and private entrances shall be kept in a reasonably smooth condition at all times. Connections or entrances shall not be disturbed by the Concessionaire until necessary. Once connections or entrances have been disturbed, they shall be maintained and completed as follows:

1. **Connections:** Connections that had an original paved surface shall be brought to final grade through the intersection. At least 2 lanes shall be paved as soon as possible after connections are disturbed. Other connections shall be brought to final grade through the intersection, and the required material or a temporary aggregate stabilization course shall be placed as soon as possible after connections are disturbed.

If there are delays in prosecution of work for connections, connections that were originally paved shall have at least two lanes maintained with a temporary paved surface. Those that were not originally paved shall be maintained with a temporary aggregate stabilization course.

2. **Entrances:** Entrances shall be graded concurrently with the roadway with which they intersect. Once an entrance has been disturbed, it shall be completed as soon as is practicable, including placing the required base and surface course or stabilization. If the entrance must be constructed in stages, such as when there is a substantial change in the elevation of the roadway with which it intersects, the surface shall be covered with a temporary aggregate stabilization course or other salvaged material until the entrance can be completed and the required base and surface or stabilization course can be placed.

The Concessionaire shall apply stabilization or surfacing material to connections and entrances whenever necessary, or when directed by the Department. The cost shall be included in the Agreement.

The Concessionaire shall schedule construction operations so that approved continuous access is provided for all property adjacent to the construction when the property is shown on the plans to require access. When frontage roads are shown on the plans, they shall be constructed prior to the closing of any access

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routes unless other approved access is provided and is acceptable to the property owner.

- (f) **Grading Operations:** When the Concessionaire elects to complete the rough grading operations for the entire project or exceed the length of one full day's surfacing operations, the rough grade shall be machined to a uniform slope from the top edge of the existing pavement to the ditch line.

When the surface is to be widened on both sides of the existing pavement, construction operations involving grading or paving shall not be conducted simultaneously on sections directly opposite each other.

The surface of pavement shall be kept free from soil and other materials that might be hazardous to traffic. Prior to opening of new pavement to traffic, shoulders shall be roughly dressed for a distance of 3 feet from the edge of the paved surface.

- (g) **Hydraulic Embankment:** Where the Concessionaire has bridged suction or discharge pipes across the surface of an existing traveled highway traffic shall be protected by the display of warning signals both day and night. If dredging operations damage an existing traveled highway, the Concessionaire shall cease operations and repair damages to the highway.
- (h) **Patching Operations:** Where existing hydraulic cement concrete pavement is to be patched, the operation of breaking and excavating old pavement shall extend for a distance of not more than 2 miles. Patching shall be coordinated with excavating so that an area of not more than 1/2 mile in which excavated patches are located shall be left at the end of any day's work. Necessary precautions shall be taken to protect traffic during patching operations.
- (i) **Temporary Structures:** The Concessionaire shall construct, maintain, and remove temporary structures and approaches necessary for use by traffic. Unless otherwise specified in the Agreement, the cost of these operations shall be included in the Agreement. After new structures have been opened to traffic, temporary structures and approaches shall be removed. The materials contained therein shall remain the property of the Concessionaire.

The proposed design of temporary structures shall be submitted to the Department prior to the beginning of construction in accordance with the requirements of Section 105.02.

- (j) **Failure To Maintain Roadway or Structures:** If the Concessionaire fails to remedy unsatisfactory maintenance immediately after receipt of a notice by the Department, the Department may proceed with adequate forces, equipment, and material to maintain the project. The cost of the maintenance, plus 25 percent for supervisory and administrative personnel, will be deducted from monies due the Concessionaire for the project.
- (k) **Haul Route:** The Concessionaire shall select haul routes between the project and material source(s) that will minimize disturbance to the community. The Concessionaire shall furnish the Department, for review, his plan for the haul route and for minimizing the adverse effects of hauling operations on persons who reside adjacent to the haul route or who otherwise use a portion of the haul route for ingress or egress to their residential area. The Department may select alternate haul routes, divide the hauling traffic over several routes, and impose other restrictions deemed necessary to minimize the impact of the hauling operation on local residents.

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104.05 –Removing and Disposing of Structures and Obstructions.

The Concessionaire shall remove and dispose of or store fences, buildings, structures, or encumbrances within the construction limits unless separate pay items for this work are included in the Agreement. Materials so removed, including existing drains or pipe culverts, shall become the property of the Concessionaire.

- (a) **Signs:** The Concessionaire shall relocate street name signs, no parking signs, and other traffic signs within the Project Right of Way that conflict with construction work as approved by the Department. Signs that are not needed for the safe and orderly control of traffic during construction as determined by the Department shall be removed and stored at a designated location. The removed signs shall be stored above ground in a manner that will preclude damage and shall be reinstalled in their permanent locations prior to final acceptance. If any of the removed signs are not to be reinstalled, the Concessionaire shall notify the Department at the time the signs have been properly stored. The Concessionaire will remove such signs from the storage area and deliver to the nearest Area Headquarters. Any sign that is damaged or lost because of the fault of the Concessionaire shall be repaired or replaced at his expense. Costs for removing, storing, protecting, and reinstalling such signs shall be included in the Agreement, and no additional compensation will be made.
- (b) **Mailboxes and Newspaper Boxes:** When removal of mailboxes and newspaper boxes is made necessary by construction operations, the Concessionaire shall place them in temporary locations so that access to them will not be impaired. Prior to final acceptance, boxes shall be placed in their permanent locations as designated by the Department and left in as good condition as when found. Boxes or their supports that are damaged through negligence on the part of the Concessionaire shall be replaced at his expense. The cost of removing and resetting boxes shall be included in the Agreement.

104.06 – Cleanup.

Removal from the project of rubbish, scrap material, and debris caused by the Concessionaire's personnel or construction operations shall be a continuing process throughout the course of the work. The Concessionaire shall maintain a neat and orderly work site at all times.

Before final acceptance, the highway, borrow pits, quarries, disposal areas, storage areas, and all ground occupied by the Concessionaire in connection with the work shall be cleaned of rubbish, surplus materials, and temporary structures. All parts of the work shall be left in a neat and orderly condition.

Within 90 days after Substantial Completion (as defined by the Agreement), the Concessionaire shall remove his equipment from the right of way and property adjacent to the project that he does not own or control, except for that equipment needed to perform the work necessary to achieve Final Acceptance (as defined by the Agreement).

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105.01—Authority of the Department.

The Department has the authority to suspend the work wholly or in part if the Concessionaire fails to correct conditions that are unsafe for workers or the general public in accordance with Article 17 of the Agreement. The Department may also suspend work for such periods as he may deem necessary because of unsuitable weather in accordance with the Agreement. If the Department has a concern for unsafe conditions due to unsuitable weather, the parties will meet to discuss what works, if any, may be able to continue during the period of unsuitable weather.

The Concessionaire shall confirm conformance with the Agreement and shall note any deviations from the Agreement, and shall provide its professional recommendations as to the resolution of questions or issues of quantity, quality, acceptance, interpretation, or disputes that may be presented to the Department.

105.02—Plans and Working Drawings.

Concessionaire shall furnish all plans consisting of general drawings and showing such details as are necessary to give a comprehensive understanding of the work specified. Except as otherwise shown on the plans, dimensions shown on the plans are measured in the respective horizontal or vertical planes. Dimensions that are affected by gradients or vertical curvatures shall be adjusted as necessary to accommodate actual field conditions and shall be specifically denoted on the working drawings.

The Concessionaire shall furnish working drawings and maintain a set for the Department and the Independent Engineer in accordance with the Agreement. The Concessionaire and the Department will, per the Technical Requirements, agree on a schedule of submittals. The Department may, during the progress of the work, identify specific elements that it determines to be important and that shall be added to the schedule of submittals. The parties agree to expedite submittal, review, and revision of drawings that relate to work packages that are on the critical path of the schedule.

Working drawings shall not incorporate any changes from the requirements of the Agreement unless the changes are specifically denoted, together with justification, and are approved in writing by the Department. Concessionaire shall identify working drawings and submittals by the complete state project and job designation numbers. Items or component materials shall be identified by the specific Agreement item number and Specification reference in the Agreement.

A Professional Engineer, holding a valid license to practice engineering in the Commonwealth of Virginia, shall certify working drawings for falsework supporting a bridge superstructure.

The Concessionaire shall provide five sets (together with one electronic version in a format acceptable to the Department) of submittals for which the Department's approval is required in accordance with the Agreement. The Department will return reviewed working drawings to the Concessionaire within 21 days from the date of receipt. If a railroad, municipality, or other entity as specified in the Agreement or on the plans is required to review the working drawings, the reviewed working drawings will be returned in accordance with the Agreement. If the working drawings are not returned by the time specified, no additional compensation will be allowed, but Concessionaire may submit, in accordance with the applicable requirements of the Agreement Documents, a request for a time extension.

Prior to manufacture of reinforced concrete pipe, the Concessionaire shall furnish to the Department a certification of the acceptability of the design of such pipe, as determined from a review which shall be made for the Concessionaire by a Professional Engineer holding a valid license in the Commonwealth of Virginia. Such certification shall cover all design data, supporting calculations and materials. Pipe designs previously certified or approved by the Department will not require recertification.

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The Department's review of the Concessionaire's working drawings will relate to conformance to the requirements of the Agreement. The review shall not be considered as authorization for any deviation from the requirements of the Agreement unless the deviation, including explicit supporting justification, is specifically described. The review will not relieve the Concessionaire from responsibility for errors in the working drawings. If working drawings detailing a change(s) initiated by the Concessionaire require more than two resubmissions or revisions, the cost of additional reviews by the Department or its designated representative(s) will be assessed to the Concessionaire in accordance with the Agreement.

105.03—Conformity with Plans and Specifications.

Values for materials to be used in the work shall be in close conformity with the specified values or range of values specified in the Agreement. Less than complete conformity may be tolerated if obtaining exact or complete conformity would not be feasible and if authorized by the Department.

Permissible tolerances for the elevation of earthwork and thickness of the several courses of select material, subbases, and bases are specified in the Standard Specifications. If permissive tolerances are exceeded or if consistent deviations from the plans or abrupt changes in grade occur, even though within the tolerances, the affected areas shall be reconstructed to conform to the specified tolerance and provide a smooth riding surface.

When the plans require the finished surface to tie into any structural item whose elevation is fixed, the elevation of the finished surface shall coincide with the elevation of the structural item.

105.04—Furnishing and Erecting Precast Structures.

The Department will allow precast units for the construction of standard drainage units and minor structures. The use of precast box culverts, precast arch, and special design precast structures may only be used in accordance with the plans.

The Concessionaire shall ensure that the precast unit, as installed at each specific location, will possess the specified structural, functional, aesthetic, and serviceability characteristics of the cast-in-place design. If field conditions make the precast unit unsuitable, the Concessionaire may modify the unit in a manner that will not be detrimental to the structural design, as approved by the Department, or shall replace the unit with the originally designed cast-in-place unit at his own expense.

Submittal of designs for precast items included in the standard drawings will not be required provided fabrication is in accordance with the standard details. Submittal of designs for precast box culverts on the Department's approval list will not be required provided the Concessionaire submits a certification that it will be fabricated in accordance with the preapproved design drawings.

Requests for approval of a precast design shall include detailed plans and supporting computations that have been reviewed and approved by a registered Professional Engineer having at least 5 years experience in structural design of the type of precast structures or components proposed. Concrete shall have a design strength at 28 days of at least 4,000 pounds per square inch and an air content of 6 ± 2 percent. The design of the concrete mixture and the method of casting, curing, handling, and erecting shall be subject to review by the the pertinent Design Consultant. Precast units may be shipped after reaching 85 percent of the design compressive strength as determined by control cylinders tested in accordance with the requirements of Section 404. Units shall retain their structural integrity during shipment and shall be subject to inspection at the job site.

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105.05—Coordination of Plans, Standard Drawings, Specifications, Supplemental Specifications, Special Provisions, and Special Provision Copied Notes.

The Concessionaire shall be responsible for coordination of the contract documents, including Plans, Standard Drawings, Specifications, and these Specifications. The plans, standard drawings, these Specifications, and the Standard Specifications, and supplementary documents are parts of the contract documents. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of a discrepancy between the Department Specifications, the following order of precedence shall prevail:

- (a) Special provision copied notes
- (b) Special provisions
- (c) Supplemental specifications
- (d) Road and Bridge Specifications

The Concessionaire shall not take advantage of any apparent error or omission in the contract documents. If the Concessionaire discovers an error or omission, he shall immediately notify the Design Build Contractor and inform the Department of the corrections. The Concessionaire will then make such corrections as necessary for fulfilling the intent of the Agreement.

105.06—Cooperation of Concessionaire.

The Department will supply two copies of the Department's *Road and Bridge Specifications* and two copies of Department's *Road and Bridge Standards* on request without charge.

The Concessionaire shall submit to the Department five sets (together with one electronic version in a format acceptable to the Department) of submittals for which the Department's approval is required in accordance with the intent of the Agreement. Concessionaire shall keep one complete set of plans, standard drawings, contract assemblies, and Specifications available on the project at all times except for maintenance projects, certain sign projects, and other projects having no field office or on which the Concessionaire has no office.

The Concessionaire shall give the work the attention necessary to facilitate progress and shall cooperate with the Engineer, Inspector, and other contractors in every way possible. If any portion of a project is located within the limits of a municipality, military installation, or other federally owned property, the Concessionaire shall cooperate with the appropriate officials and agents in the prosecution of the work to the same extent as with the Department as is the intent of the Agreement.

105.07—Cooperation With Regard to Utilities.

The adjustment of utilities consists of the relocation, removal, replacement, rearrangement, reconstruction, improvement, disconnection, connection, shifting, or altering of an existing utility facility in any manner.

The Concessionaire shall coordinate project construction with utility adjustments and take all necessary precautions to prevent disturbance of the utility facilities.

The Concessionaire shall perform Agreement utility work in a manner that will cause the least reasonable inconvenience to the utility owner and those being served by the utility owner.

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Existing, adjusted, or new utility facilities that are to remain within the Project Right of Way shall be properly protected by the Concessionaire to prevent disturbance or damage resulting from construction operations. If the Concessionaire encounters an existing utility that requires adjustment, he shall not interfere with the utility but shall take the proper precautions to protect the facility and shall take appropriate actions to adjust the utility.

The Concessionaire shall contact known utility owners to determine the nature, extent, and location of existing, adjusted, or new utility facilities.

If the Concessionaire desires the temporary or permanent adjustment of utilities for his own benefit, he shall conduct all negotiations with the utility owners and pay all costs in connection with the adjustment.

Except as provided in the Agreement, the Department will not be responsible for any claims for additional compensation from the Concessionaire resulting from delays, inconvenience, or damage sustained by him attributable to interference by utility appurtenances, or the operation of moving the same.

105.08—Cooperation among Contractors.

The Department is responsible for all work performed on the Project or at the Site by separate contractors under the Department's control. The Department shall contractually require its separate contractors to cooperate with, and coordinate their activities so as not to interfere with the Concessionaire in order to enable Concessionaire to timely complete the Work consistent with the Agreement.

105.09—Holidays.

Not used – See Agreement

105.10—Construction Stakes, Lines, and Grades.

The Concessionaire shall perform all construction and other surveying that the Concessionaire deems necessary to construct this project in accordance with the Agreement. All construction surveys shall be performed under the direct supervision of a land surveyor duly registered and licensed in the Commonwealth of Virginia.

105.11—Authority and Duties of Inspector.

Inspectors employed by the Department are authorized to conduct independent inspection and oversight of all work performed and materials furnished, in accordance with the Agreement. As noted in Section 10.01 of the Agreement, the Department has the right at all times during the Term to carry out Oversight Services with respect to all aspects of the design, permitting, financing, acquisition, construction, installation, equipping, maintenance, repair, preservation, modification, operation, management and administration of the Route 495 HOT Lanes in Virginia Project and the HOT Lanes Project, as the case may be, and any Change Orders or Project Enhancements. Inspection may extend to all or any part of the work and to the preparation, fabrication, and manufacture of the materials to be used. The Inspector is not authorized to alter or waive the provisions of the Agreement.

The Inspector is not authorized to accept any Work, make final acceptance of the project, approve any operation or item, or act as foreman for the Concessionaire or the Department. Inspection by the Department shall not relieve the Concessionaire of any obligation to furnish acceptable materials or provide completed construction that is in accordance with the Agreement.

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The Inspector will exercise only such additional authority as may be delegated by the Department. The Department will advise the Concessionaire in writing of delegations of authority that will affect his operations.

105.12—Inspection of Work.

The Concessionaire is responsible for continuous quality control and quality assurance in accordance with the Quality Management System Plan. However, all stages, materials, and details of the work are subject to independent inspection by the Department. The Department shall be allowed access to all parts of the work and shall be furnished such information and assistance by the Concessionaire in accordance with the Agreement. The Department shall have ready access to machines and plant equipment used in processing or placing materials.

The Concessionaire shall keep the Department informed of planned operations in accordance with the requirements of the Agreement.

If the Department requests it, the Concessionaire shall remove or uncover such portions of the finished work as may be directed at any time before final acceptance. If necessary, the Concessionaire shall restore such portions of the work to comply with the Specifications. If the work exposed is acceptable, the uncovering or removing and replacing the covering or making good the parts removed will be paid for as extra work in accordance with the Section 109.05. If the work is unacceptable, the cost of uncovering or removing and replacing the covering or making good the parts removed shall be borne by the Concessionaire.

When any unit of government, political subdivision, or public or private corporation is to pay a portion of the cost of the work specified in the Agreement, its representatives shall have the right to inspect the work. The exercise of this right shall not be construed as making them a party or parties to the Agreement or conferring on them the right to issue instructions or orders to the Concessionaire.

If materials are used or work is performed without inspection by independent Quality Control staff and certified by the Quality Assurance Manager, the Department may order the Concessionaire to remove and replace the work or material at Concessionaire's own expense.

If an inspection reveals that work has not been properly performed, the Concessionaire shall immediately inform the Department, in writing, of his schedule for correcting such work and of his additional quality control and quality assurance procedures to be made. The Concessionaire will inform the Department of the time at which independent verification can be made.

105.13—Removal of Unacceptable and Unauthorized Work.

Work that does not conform to the requirements of the Agreement will be considered unacceptable work.

Unacceptable work shall be remedied or removed immediately and replaced in an acceptable manner at the Concessionaire's expense.

No work shall be done until the Concessionaire establishes the lines and grades. Work that is done beyond the lines shown on the plans, unless otherwise agreed, will be considered unauthorized. Such work may be ordered removed or replaced.

If the Concessionaire fails to comply immediately with any order of the Department or the Quality Assurance Manager made under the provisions of this section, the Department or the Quality Assurance

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Manager will have the authority to cause unacceptable work to be removed and replaced and unauthorized work to be removed.

105.14—Size and Weight Limitations.

- (a) **Hauling or Moving Material and Equipment on Public Roads Open to Traffic:** The Concessionaire shall comply with legal size and weight limitations in the hauling or moving of material and equipment on public roads open to traffic unless the hauling or moving is covered by a hauling permit.
- (b) **Hauling or Moving Material and Equipment on Public Roads Not Open to Traffic:** The Concessionaire shall comply with legal weight limitations in the hauling or moving of material and equipment on public roads that are not open to traffic unless the hauling or moving is permitted elsewhere herein or is otherwise covered by a hauling permit. The Concessionaire shall be liable for damage that results from the hauling or moving of material and equipment. The hauling or moving of material and equipment on the pavement structure or across any structure during various stages of construction shall be subject to additional restrictions as specified or directed by the Department.
- (c) **Furnishing Items in Component Parts of Sections:** If the size or weight of fabricated or manufactured items together with that of the hauling or moving vehicle exceeds the limitations covered by hauling permit policies and other means of transportation are not available, permission will be given to furnish the items in component parts of sections with adequately designed splices or connections at appropriate points. Permission for such adjustments shall be requested in writing, and approval in writing shall be secured from the pertinent Design Consultant prior to fabrication or manufacture of the items. The request shall state the reasons for adjustment and shall be accompanied by supporting data, including working drawings where necessary.

105.15—Acceptance.

See Agreement for acceptance of work during the Work Period. Unless otherwise agreed by the parties in a work order for a Department Project Enhancement following the Work Period, the pertinent provisions and the intent of Article 7 of the Agreement shall apply.

105.16—Submission and Disposition of Claims.

Not used – See Agreement

SECTION 106—CONTROL OF MATERIAL

106.01—Source of Supply and Quality Requirements.

The materials used throughout the work shall conform to the requirements of the Agreement. The Concessionaire shall regulate his supplies so that there will be a sufficient quantity of tested material on

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hand at all times to prevent any delay of work. Except as otherwise specified, materials, equipment, and components shall be new.

At the option of the Department, materials may be approved at the source of supply. If it is found during the life of the Agreement that previously approved sources of supply do not supply materials or equipment conforming to the requirements of the Agreement, do not furnish the valid test data required to document the quality of the material or equipment, or do not furnish valid quantities to document payment, the Concessionaire shall change the source of supply and furnish material or equipment from other approved sources. The Concessionaire shall notify the Department of this change, and provide the same identifying information noted herein before, at least 60 days prior to their use on the project, but not less than two weeks prior to delivery.

Materials shall not be furnished from a source that has been identified by the Office of Federal Activities as being on the EPA's list of violating facilities.

When optional materials are included in the Agreement, the Concessionaire shall advise the Department in writing of the specific materials selected. Thereafter, the Concessionaire shall use the selected materials throughout the project unless the Department authorizes a change in writing. However, when the Concessionaire has an option as to the type of pipe that may be used, he may use any one of the approved types for each size of pipe, but he shall use the same type for a particular line. The Department may authorize other types and sources in an emergency that will unreasonably delay delivery of the selected material.

Equipment and material guaranties or warranties that are normally given by a manufacturer or supplier, or are otherwise required in the Agreement, shall be obtained by the Concessionaire and assigned to the State in writing. The Department's rights under any construction warranties are as set forth in the Agreement

106.02—Material Delivery.

The Concessionaire shall advise the Quality Assurance Manager and the Department at least 2 weeks prior to the delivery of any material from the following list that is from a commercial source:

- (a) Prestressed Concrete Structural Elements (beams, girders (AASHTO and bulb-T), and piles)
- (b) Structural Steel Elements (beams and girders)
- (c) Pipe (concrete, steel, aluminum and high density polyethylene) for culverts, storm drains and underdrains
- (d) Precast Concrete Structures
- (e) Metal Traffic Signal and Light Poles and Arms
- (f) Asphalt Concrete Mixtures
- (g) Aggregate (dense and open graded mixes)
- (h) Hydraulic Cement Concrete Mixtures

106.03—Local Material Sources (Pits and Quarries).

Local material sources shall be concealed from view from the completed roadway and any existing public roadway. Concealment shall be accomplished by selectively locating the pit or quarry and spoil pile, providing environmentally compatible screening between the pit or quarry site and the roadway, or using the site for another purpose after removal of the material. The foregoing requirements shall also apply to any pit or quarry opened or reopened by a subcontractor. However, the requirements will not apply to commercial sand and gravel and quarry operations actively processing material at the site prior to the date of the execution of the Agreement.

The Concessionaire shall obtain a statement signed by the property owner in which the property owner agrees to the use of his property as a source of material for the project. Upon completion of the use of the

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property as a material source, the Concessionaire shall obtain a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement does not apply to commercial sources or sources owned by the Concessionaire.

Local material pits and quarries shall not be opened or reopened without authorization by the Department. The Concessionaire shall obtain the approval of a site plan from the Department, including (1) the location and approximate boundaries of the excavation with a slope gradient of 3:1 or greater; (2) procedures to minimize erosion and siltation; (3) provision of environmentally compatible screening; (4) restoration; (5) cover vegetation; (6) other use of the pit or quarry after removal of material, including the spoil pile; (7) the drainage pattern on and away from the area of land affected, including the directional flow of water; (8) constructed or natural waterways used for discharge; and (9) a sequence and schedule to achieve the approved plan. The site plan shall also include sediment basins if required. Sediment basins are required if the runoff from a watershed area of 3 acres or more flows across a disturbed area of 10,000 square feet or greater. The Concessionaire shall design, construct, and maintain the basin to accommodate the anticipated sediment loading from the land disturbing activity. The Concessionaire shall certify to Department that the sediment basin design is in compliance with the Virginia Erosion and Sediment Control Regulations.

The Concessionaire's design and restoration shall be in accordance with the Agreement and in accordance with the requirements of the federal, state, and local laws and regulations.

If the approved plan provides for the continued use or other use of the pit or quarry beyond the date of Final Acceptance, the Concessionaire shall furnish the Department a bond made payable to the Commonwealth of Virginia in an amount equal to the Department's estimate of the cost of performing the restoration work. If the pit or quarry is not used in accordance with the approved plan within 8 months after Final Acceptance, the Concessionaire shall perform restoration work as directed by the Department, forfeit his bond, or furnish the Department with evidence that he has complied with the applicable requirements of the State Mining Law.

Topsoil on borrow sites shall be stripped and stockpiled for use as needed within the construction limits of the project or in the reclamation of borrow and disposal areas.

If the Concessionaire fails to provide necessary controls to prevent erosion and siltation, such efforts are not made in accordance with the approved sequence, or the efforts are found to be inadequate, he shall take immediate action to abate erosion and siltation. The Department may cause the Concessionaire to cease all contributing operations and direct efforts toward corrective action or may perform the work with state forces or other means determined by the Department.

Costs for applying seed, fertilizer, lime, and mulch; restoration; drainage; erosion and siltation control; regrading; haul roads; and screening shall be included in the Agreement price for the type of excavation or other appropriate items.

If the Concessionaire fails to fulfill the provisions of the approved plan for screening or restoring material sources, the Department may withhold and use for the purpose of performing such work any moneys due the Concessionaire. The Concessionaire will be held liable for penalties, fines, or damages incurred by the Department as a result of his failure to prevent erosion or siltation.

After removing the material, the Concessionaire shall remove metal, lumber, and other debris resulting from his operations and shall shape and landscape the area in accordance with the approved plan for such work.

If payment is to be made for material measured in its original position, material shall not be removed until cross sections have been taken. The material shall be reserved exclusively for use on the project until completion of the project or until final cross-sections have been taken.

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106.04—Disposal Areas.

Unsuitable or surplus material whose presence is shown on the plans shall be deposited on approved areas located off the right of way, unless specifically requested by the Concessionaire and specifically agreed to by the Department, in its sole discretion. The Concessionaire shall obtain the necessary rights to such property provided at least one property owner having a suitable location is willing to enter a reasonable agreement.

The Concessionaire shall obtain a statement signed by the property owner in which the owner agrees to the use of his property for the deposit of material from the project. Upon completion of the use of the property as a disposal area, the Concessionaire shall obtain a release signed by the property owner indicating that the property has been satisfactorily restored. This requirement will be waived for property that is owned by the Concessionaire or the Department or for which rights have been procured by the Department.

Prior to opening a disposal area, the Concessionaire shall develop a site plan. The plan shall show (1) the location and approximate boundaries of the disposal area; (2) all procedures to minimize erosion and siltation; (3) haul roads; (4) provision for environmentally compatible screening; (5) restoration of and cover vegetation for the area following the deposit of material; (6) the drainage pattern on and away from the area affected, including constructed or natural waterways used for drainage; (7) the streams or tributaries receiving the discharge; and (8) a sequence and schedule to complete the work, and (9) total drainage area for temporary sediment traps. The site plan shall also include sediment basins if required. Sediment basins are required if the runoff from a watershed area of 3 acres or more flows across a disturbed area of 10,000 square feet or greater. The Concessionaire shall design, construct, and maintain the basin to accommodate the anticipated sediment loading from the land disturbing activity. Costs for the work described herein shall be included in the Agreement. The Concessionaire shall certify that the sediment basin design is in compliance with the Virginia Erosion and Sediment Control Regulations, all local, state, and federal ordinances and Section 107.14.

Disposal areas shall be cleared but need not be grubbed. The clearing work shall not damage grass, shrubs, or vegetation outside the limits of the approved area and haul roads thereto. After the material has been deposited, the area shall be shaped to minimize erosion and siltation of nearby streams and landscaped in accordance with the approved plan for such work or shall be used as approved by the Department.

Excavated rock in excess of that used in embankments in accordance with the requirements of Section 303 shall be deposited off the right of way in an approved disposal area. Deposits whose surface is composed largely of rock shall be leveled by special arrangement of the material or reduction of the irregularity of the surface by crushing projections to create a reasonably uniform and neat appearance.

The Concessionaire's design and restoration shall be in accordance with the requirements of the Agreement and Legal Requirements.

If the Concessionaire fails to provide the necessary controls to prevent erosion and siltation, such efforts are not made in accordance with the approved sequence, or the efforts are found to be inadequate, he shall take immediate action to abate erosion and siltation. The Department shall have the right to direct the Concessionaire to cease all contributing operations and direct efforts toward corrective action.

Concessionaire is responsible for applying seed, lime, fertilizer, and mulch; reforestation; drainage; erosion and siltation control; regrading; haul roads; and screening.

The Concessionaire shall be held liable for all penalties, fines, or damages incurred by the Department as a result of his failure to prevent erosion or siltation.

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106.05—Rights For And Use Of Materials Found On Project.

With approval of the Department, the Concessionaire may use in the project any materials found in the excavation that comply with the Specifications. The Concessionaire shall replace at his own expense with other acceptable material the excavation material removed and used that is needed for use in embankments, backfills, approaches, or otherwise. The Concessionaire shall not excavate or remove any material from within the construction limits that is not within the grading limits, as indicated by the slope and grade lines.

106.06—Samples, Tests, and Cited Specifications.

The Concessionaire shall inspect and test materials in accordance with the Quality Management System Plan.

Unless reference is made to a specific dated specification or special provision, references in these specifications to AASHTO, ASTM, VTM, and other standard test methods and materials requirements shall refer to either the test specifications that have been formally adopted or the latest interim or tentative specifications that have been published by the appropriate committee of such organizations as of the date of the Agreement..

The inspection cost of structural steel items, precast concrete items, and prestressed concrete items fabricated in a country other than the continental United States shall be borne by the Concessionaire. Inspection of these items shall be performed in accordance with the requirements of the appropriate VTM by the Department or a commercial laboratory approved by the Department. Additional cleaning or repair necessary because of environmental conditions in transit shall be at the Concessionaires expense.

Materials requiring an MSDS will not be accepted at the project site for sampling without the document.

106.07—Plant Inspection.

If the Department inspects materials at the source, the following conditions shall be met:

- (a) The Department shall have the cooperation and assistance of the Concessionaire and producer of the materials.
- (b) The Department shall have full access to parts of the plant that concern the manufacture or production of the materials being furnished.
- (c) For materials accepted under a quality assurance plan, the Concessionaire shall furnish equipment and maintain a plant laboratory at locations approved for plant processing of materials. The Concessionaire shall use the laboratory and equipment to perform quality control testing.

The laboratory shall be of weatherproof construction, tightly floored and roofed, and shall have adequate lighting, heating, running water, ventilation, and electrical service. The ambient temperature shall be maintained between 68 degrees F and 86 degrees F and thermostatically controlled. The laboratory shall have a telephone, intercom, or other electronic communication system connecting the laboratory and scale house if the facilities are not in close proximity. The laboratory shall be constructed in accordance with the requirements of local building codes.

The Concessionaire shall furnish, install, maintain, and replace, as conditions necessitate, testing equipment specified by the appropriate AASHTO method or VTM being used and provide necessary office equipment and supplies to facilitate keeping records and generating test reports. The

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Concessionaire's technician shall maintain current copies of the appropriate test procedures. The Concessionaire shall also provide and maintain an approved test stand for accessing truck beds for the purpose of sampling and inspection. Cast iron grinding pots and rubber mauls will be furnished by the Department where required. The Department may approve a single laboratory to service more than one plant belonging to the same Concessionaire.

- (d) Adequate safety measures shall be provided and maintained.
- (e) Concessionaire shall inspect all materials upon delivery to the site for compliance with Agreement requirements. All non-conforming materials shall be rejected and removed from the site.

106.08—Storing Materials.

Materials shall be stored in a manner so as to ensure the preservation of their quality and fitness for the work. When considered necessary by the QAM and/or the Department, materials shall be stored in weatherproof buildings on wooden platforms or other hard, clean surfaces that will keep the material off the ground. Materials shall be covered when directed by the Department or the QAM. Stored material shall be located so as to facilitate its prompt inspection. Approved portions of the right of way may be used for storage of material and equipment and for plant operations. However, equipment and materials shall not be stored within the clear zone of the travel lanes open to traffic.

Additional required storage space shall be provided by the Concessionaire. Private property shall not be used for storage purposes without the written permission of the owner or lessee. Copies of the written permission shall be furnished to the Department. Upon completion of the use of the property, the Concessionaire shall furnish to the Department a release signed by the property owner indicating that the property has been satisfactorily restored.

106.09—Handling Materials.

Materials shall be handled in a manner that will preserve their quality and fitness for the work. Aggregates shall be transported from storage to the work in vehicles constructed to prevent loss or segregation of materials.

106.10—Unacceptable Materials.

Materials that do not conform to the Specifications shall be considered unacceptable. Such materials, whether in place or not, will be rejected and shall be removed from the site of the work. If it is not practical for the Concessionaire to remove rejected material immediately, the Concessionaire will mark the material for identification. Rejected material whose defects have been corrected shall not be used until approval has been given by the Department. The Department shall file documentation of the correction with resolution of the Non-conformance report (NCR).

106.11—Material Furnished by the Department.

The Concessionaire shall furnish all materials required to complete the work except those specified to be furnished by the Department.

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Material furnished by the Department will be delivered or made available to the Concessionaire at the points specified in the Agreement. The cost of handling and placing materials after delivery to the Concessionaire shall be included in the Agreement.

The Concessionaire shall be responsible for material delivered to him, including shortages, deficiencies, and damages that occur after delivery, and any demurrage charges.

SECTION 107—LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01—Laws To Be Observed.

Concessionaire shall execute and file the documents, statements, and affidavits required under any applicable federal or state law or regulation affecting his Proposal or Agreement or prosecution of the work thereunder in accordance with the Agreement.

107.02—Permits, Certificates, and Licenses.

Not used – See Agreement, noting in particular Section 7.07, Regulatory Approvals, wherein, it shall be the sole responsibility of the Concessionaire, at its own cost and expense, to obtain and maintain in full force and effect and comply with all Regulatory Approvals necessary for the development, design, construction, management, operation and maintenance of the Project and any Project Enhancements throughout the Term; *provided* that (i) the Department shall obtain at its cost, all Department Regulatory Approvals, and (ii) any Regulatory Approval necessitated by a Department Change or Department Project Enhancement shall be governed by the provisions of Section 7.12 or Section 9.02, as applicable. The Department and the Concessionaire acknowledge that as of the Agreement Date the Department Regulatory Approvals for the Work Period have been obtained and any additional permits and approvals required during the Work Period shall be the Concessionaire's responsibility.

107.03—Patented Devices, Materials, and Processes.

If the Concessionaire employs any design, device, material, or process covered by a patent or copyright, he shall provide for its use by obtaining a legal agreement with the patentee or owner, subject to the requirements under the Agreement. The Concessionaire and the surety shall indemnify and save harmless the State, any affected third party, or political subdivision from claims for infringement because of such use. The Concessionaire shall indemnify the State for costs, expenses, or damages resulting from infringement during prosecution or after completion of the work.

107.04—Restoration of Work Performed by Others.

The Department may construct or reconstruct any utility service in the highway or street or grant a permit for the same at any time. The Concessionaire shall not be entitled to any damages occasioned thereby other than a consideration of an extension of time.

When authorized by the Department, the Concessionaire shall allow any person, firm, or corporation to make an opening in the highway within the Project Right of Way upon presentation of a duly executed permit from the Department or any municipality for sections within its corporate limits. When directed by

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the Department, the Concessionaire shall satisfactorily repair portions of the work disturbed by the openings. The necessary work will be paid for as extra work in accordance with the requirements of the Agreement and shall be subject to the same conditions as the original work performed.

107.05—Federal-Aid Provisions.

When the U.S. government pays all or any portion of the cost of a project, the Concessionaire shall observe the federal laws and rules and regulations made pursuant to such laws. The work shall be subject to inspection by the appropriate federal agency. Such inspection shall in no sense make the federal government a party of the Agreement and will in no way interfere with the rights of either party.

107.06—Sanitary Provisions.

The Concessionaire shall provide and maintain in a neat, sanitary condition such accommodations for the use of employees as may be necessary to comply with the requirements of the state and local Board of Health or other bodies or tribunals having jurisdiction.

107.07—Public Convenience and Safety.

The Concessionaire shall conduct his work so as to ensure the least possible obstruction to traffic. The Concessionaire shall provide for the safety and convenience of the general public and residents along the highway and the protection of persons and property as specified in Section 104.04.

107.08—Railway-Highway Provisions.

If the Concessionaire's work requires hauling materials across the tracks of a railway, he shall make arrangements with the railway for any new crossing(s) required or the use of any existing crossing. Charges made by the railway company for the construction or use of new or existing crossings and their subsequent removal and for watchperson or flagger service at such crossings shall be reimbursed by the Concessionaire directly to the railway company under the terms of their own arrangements before final acceptance.

Work to be performed by the Concessionaire in construction on or over the railway right of way shall be performed at times and in a manner that will not interfere unnecessarily with the movement of trains or traffic on the railway track. The Concessionaire shall use care to avoid accidents, damage, or unnecessary delay or interference with the railway company's trains or other property. If any interruption of railway traffic is required by the Concessionaire's actions, he shall obtain prior written approval from the railway company.

The Concessionaire shall conduct operations that occur on or over the right of way of any railway company fully within the rules, regulations, and requirements of the railway company and in accordance with the requirements of any agreements made between the Department and railway company that are made a part of the Agreement.

(a) **Flagger or Watchperson Services:** Flagger or watchperson services required by the railway company for the safety of railroad operations because of work being performed by the Concessionaire or incidental thereto will be provided by the railway company. The cost for such services will be borne by the Concessionaire.

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No work shall be undertaken on or over the railway right of way until the watchpersons or flaggers are present at the project site. The Concessionaire shall continuously prosecute the affected work to completion to minimize the need for flagger or watchperson services.

(b) **Approval of Construction Methods on Railway Right of Way:** The Concessionaire shall submit to the Department a plan of operations showing the design and method of proposed structural operations and shall provide the Department a copy of railway company's approval before performing any work on the railway company's right of way unless otherwise indicated in the railroad agreement. The plan shall be clear and legible, and details shall be drawn to scale. The plan shall show, but not be limited to, the following:

1. proximity of construction operations to tracks
2. depth of excavation with respect to tracks
3. description of structural units
4. vertical and horizontal clearances to be afforded the railroad during installation and upon completion of excavation
5. sheeting and bracing
6. method and sequence of operations

Any review of or comment on the plan of operations by the Department shall not relieve the Concessionaire of any liability under the Agreement. The Concessionaire shall arrange the work so as not to interfere with the railway company's operation except by agreement with the railway company.

(c) **Insurance:**

In addition to insurance or bonds required under the terms of the Contract, the Concessionaire shall carry insurance covering operations affecting the property of the railway company. The original railroad protective liability insurance policy and certificate of insurance showing insurance carried by the Concessionaire and any Subcontractor shall be submitted to the railway company for approval and retention.

Neither the Concessionaire nor any Subcontractor shall begin any work affecting the railway company until the railway company has received the insurance.

Notice of any material change in or cancellation of the required policies shall be furnished the Department and the railway company at least 30 days prior to the effective date of the change or cancellation. The insurance shall be of the following kinds and amounts, unless otherwise agreed to by the railway company:

1. **Concessionaire's public liability and property damage insurance:** The Concessionaire shall furnish evidence to the Department with respect to the operations to be performed that he carries regular Concessionaire's public liability insurance. The insurance shall provide for a limit of at least the dollar value specified in the Contract for all damages arising out of bodily injuries to or the death of one person, and subject to that limit for each person, a total limit of at least the dollar value specified in the Contract for all damages arising out of bodily injuries to or death of two or more persons in any one occurrence, and regular Concessionaire's property damage insurance providing for a limit of at least the dollar value specified in the Contract for all damages arising out of bodily injury to or destruction of property in any one occurrence, and subject to that limit per occurrence, a total or aggregate limit of at least the dollar value specified in the Contract for all damages arising out of injury to or destruction of property during the policy period. The Concessionaire's public liability and property damage insurance shall include explosion, collapse, and underground damage coverage. If the Concessionaire subcontracts any portion

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of the work, he shall secure insurance protection in his own behalf under the Contract's public liability and property damage insurance policies to cover any liability imposed on him by law for damages because of bodily injury to, or death of persons and injury to, or destruction of property as a result of work undertaken by the Subcontractor. In addition, the Concessionaire shall provide similar insurance protection for and on behalf of any Subcontractors to cover their operation by means of separate and individual Concessionaire's public liability and property damage policies. As an alternative, he shall require each Subcontractor to provide such insurance in his own behalf.

2. **Railroad protective insurance and public liability and property damage:** The policy furnished the railway company shall include coverage for contamination, pollution, explosion, collapse, and underground damage. The policy shall be of the type specified hereinafter and shall be expressed in standard language that may not be amended. No part may be omitted except as indicated hereinafter or by an endorsement that states an amendment or exclusion of some provision of the form in accordance with the provisions of a manual rule. The form of the endorsement shall be approved as may be required by the supervising authority of the state in which the policy is issued. A facsimile of the Declarations form as shown in the RFP shall be made a part of the policy and shall be executed by an officer of the insurance company. The several parts of the requirements and stipulations specified or inferred herein may appear in the policy in such sequence as the company may elect.

a. For a policy issued by one company:

(NAME AND LOCATION OF INDEMNITY COMPANY),
a _____ Insurance Company, herein called the
(Type of Company)

Company, agrees with the insured named in the Declarations made a part hereof, in consideration of the payment of the premium and in reliance upon the statements in the Declarations made by the named insured and subject to all of the terms of his policy.

For a policy issued by two companies:

(NAME AND LOCATION OF INDEMNITY COMPANY)
and

(NAME AND LOCATION OF INDEMNITY COMPANY),
each a _____ Insurance Company, herein called
(Type of Company)

the Company, severally agree with the insured named in the Declarations made a part hereof, in consideration of the payment of the premium and in reliance upon the statements in the Declaration made by the named insured and subject to all of the terms of this policy, provided the named Indemnity Company shall be the insured with respect to Coverage _____ and no other and the named Insurance Company shall be the insurer with respect to Coverage _____ and no other.

b. Insuring agreements:

(1) **Coverages: Coverage A—Bodily injury liability:** To pay on behalf of the insured all sums that the insured shall become legally obligated to pay as damages because of bodily injury, sickness, or disease including death at any time resulting therefrom (hereinafter called bodily injury) either (1) sustained by any person arising out of acts or omissions at the designated job site that are related to or are in connection with the work described in Item 6 of the Declarations; or (2) sustained at the designated job site by the Concessionaire, any employee of the Concessionaire, any employee of the governmental authority specified in Item 5 of the Declarations, or any designated employee of the insured, whether or not arising out of such acts or omissions.

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Coverage B—Property damage liability: To pay on behalf of the insured all sums the insured shall become legally obligated to pay as damages because of physical injury to or destruction of property, including loss of use of any property because of such injury or destruction (hereinafter called property damage) arising out of acts or omissions at the designated job site that are related to or are in connection with the work described in Item 6 of the Declarations.

Coverage C—Physical damage to property: To pay for direct and accidental loss of or damage to rolling stock and other contents, mechanical construction equipment, or motive power equipment (hereinafter called loss) arising out of acts or omissions at the designated job site that are related to or are in connection with the work described in Item 6 of the Declarations; provided such property is owned by the named insured or is leased or entrusted to the named insured under a lease or trust agreement.

(2) **Definitions:** *Insured* includes the named insured and any executive officer, director, or stockholder thereof while acting within the scope of his duties as such.

Concessionaire means the Concessionaire designated in Item 4 of the Declarations and includes all Subcontractors of the Concessionaire but not the named insured.

Designated employee of the insured means (1) any supervisory employee of the insured at the job site; (2) any employee of the insured while operating, attached to, or engaged on work trains or other railroad equipment at the job site that is assigned exclusively to the Concessionaire; or (3) any employee of the insured not within (1) or (2) who is specifically loaned or assigned to the work of the Concessionaire for prevention of accidents or protection of property, the cost of whose services is borne specifically by the Concessionaire or governmental authority.

Contract means any contract or agreement to carry a person or property for a consideration or any lease, trust, or interchange contract or agreement respecting motive power, rolling stock, or mechanical construction equipment.

(3) **Defense and settlement supplementary payments:** With respect to such insurance as is afforded by this policy under Coverages A and B, the Company shall defend any suit against the insured alleging such bodily injury or property damage and seeking damages that are payable under the terms of this policy, even if any of the allegations of the suit are groundless, false, or fraudulent. However, the Company may make such investigation and settlement of any claim or suit as it deems expedient.

In addition to the applicable limits of liability, the Company shall pay (1) all expenses incurred by the company, all costs taxed against the insured in any such suit, and all interest on the entire amount of any judgment therein that accrues after entry of the judgment and before the Company has paid or tendered or deposited in court that part of the judgment that does not exceed the limit of the Company's liability thereon; (2) premiums on appeal bonds required in any such suit and premiums on bonds to release attachments for an amount not in excess of the applicable limit of liability of this policy, but without obligation to apply for or furnish any such bonds; (3) expenses incurred by the insured for first aid to others that shall be imperative at the time of the occurrence; and (4) all reasonable expenses, other than loss of earnings, incurred by the insured at the Company's request.

(4) **Policy period and territory:** This policy applies only to occurrences and losses during the policy period and within the United States, its territories or possessions, or Canada.

c. **Exclusions:** This policy does not apply to the following:

(1) liability assumed by the insured under any contract or agreement except a contract as defined herein

(2) bodily injury or property damage caused intentionally by or at the direction of the insured

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(3) bodily injury, property damage, or loss that occurs after notification to the named insured of the acceptance of the work by the governmental authority, other than bodily injury, property damage, or loss resulting from the existence or removal of tools, uninstalled equipment, and abandoned or unused materials

(4) under Coverage A(1), B, and C, to bodily injury, property damage, or loss, the sole proximate cause of which is an act or omission of any insured

(5) under Coverage A, to any obligation for which the insured or any carrier as his insurer may be held liable under any workers' compensation, employment compensation, or disability benefits law or under any similar law; provided that the Federal Employer's Liability Act, *U.S. Code* (1946) Title 45, Sections 51-60, as amended, shall for the purpose of this insurance be deemed not to be any similar law

(6) under Coverage B, to injury to or destruction of property owned by the named insured or leased or entrusted to the named insured under a lease or trust agreement

(7) under any liability coverage, to injury, sickness, disease, death, or destruction (1) with respect to which an insured under the policy is also an insured under a nuclear energy liability policy issued by the Nuclear Energy Liability Insurance Association, Mutual Atomic Energy Liability Underwriters, or Nuclear Insurance Association of Canada or would be an insured under any such policy but for its termination upon exhaustion of its limit of liability; or (2) resulting from the hazardous properties of nuclear material and with respect to which any person or organization is required to maintain financial protection pursuant to the Atomic Energy Act of 1954 or any law amendatory thereof or the insured is (or had this policy not been issued would be) entitled to indemnity from the United States or any agency thereof under any agreement entered into by the United States, or any agency thereof, with any person or organization

(8) under any Medical Payments Coverage or any Supplementary Payments provision relating to immediate medical or surgical relief or to expenses incurred with respect to bodily injury, sickness, disease, or death resulting from the hazardous properties of nuclear material and arising out of the operation of a nuclear facility by any person or organization

(9) under any liability coverage, to injury, sickness, disease, death, or destruction resulting from the hazardous properties of nuclear material if (1) the nuclear material is at any nuclear facility owned or operated by or on behalf of an insured or has been discharged or dispersed therefrom; (2) the nuclear material is contained in spent fuel or waste at any time possessed, handled, used, processed, stored, transported, or disposed of by or on behalf of an insured; or (3) the injury, sickness, disease, death, or destruction arises out of the furnishing by an insured of services, materials, or parts for equipment in connection with the planning, construction, maintenance, operation, or use of any nuclear facility; if such facility is located in the United States, its territories or possessions, or Canada, this exclusion applies only to injury to or destruction of property at such nuclear facility

(10) under Coverage C, to loss attributable to nuclear reaction, nuclear radiation, or radioactive contamination or to any act or condition incident to any of the foregoing

As used in exclusions (7), (8), and (9), the following definitions apply: *Hazardous properties* include radioactive, toxic, or explosive properties. *Nuclear material* means source material, special nuclear material, or byproduct material. *Source material, special nuclear material, and byproduct material* have the meanings given them in the Atomic Energy Act of 1954 or in any law amendatory thereof. *Spent fuel* means any fuel element or fuel component (solid or liquid) that has been used or exposed to radiation in a nuclear reaction. *Disposable material* means material containing byproduct material and resulting from the operation by any person or organization of any nuclear facility included in the definition of nuclear facility under 1 or 2 below. *Nuclear facility* means

(1) any nuclear reactor

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(2) any equipment or device designed or used for separating the isotopes of uranium or plutonium; processing or utilizing spent fuel; or handling, processing, or packaging waste

(3) any equipment or device designed or used for the processing, fabricating, or alloying of special nuclear material if at any time the total amount of such material in the custody of the insured at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium 233 (or any combination thereof) or more than 250 grams of uranium 235

(4) any structure, basin, excavation, premises, or place prepared or used for the storage or disposal of waste (includes the site on which any of the foregoing is located, all operation conducted on such site, and all premises used for such operations)

Nuclear reactor means any apparatus designed or used to sustain nuclear fission in a self-supporting chain reaction or to contain a critical mass of fissionable material. With respect to injury to or destruction of property, *injury* or *destruction* includes all forms of radioactive contamination of property.

d. **Conditions:** The following conditions, except conditions (3) through (12), apply to all coverages. Conditions (3) through (12) apply only to the coverage noted thereunder.

(1) **Premium:** The premium bases and rates for the hazards described in the Declarations are stated therein. Premium bases and rates for hazards not so described are those applicable in accordance with the requirements of the manuals used by the company. The term *contract cost* means the total cost of all work described in Item 6 of the Declaration. The term *rental cost* means the total cost to the Concessionaire for rental or work trains or other railroad equipment, including the remuneration of all employees of the insured while operating, attached to, or engaged thereon. The advance premium stated in the Declarations is an estimated premium only. Upon termination of this policy, the earned premium shall be computed in accordance with the Company's rules, rates, rating plans, premiums, and minimum premiums applicable to this insurance. If the earned premium thus computed exceeds the estimated advance premium paid, the Company shall look to the Concessionaire specified in the Declarations for any such excess. If less, the Company shall return to the Concessionaire the unearned portion paid. In no event shall payment or premium be an obligation of the named insured.

(2) **Inspection:** The named insured shall make available to the Company records of information relating to the subject matter of this insurance. The Company shall be permitted to inspect all operations in connection with the work described in Item 6 of the Declarations.

(3) **Limits of liability, Coverage A:** The limit of bodily injury liability stated in the Declarations as applicable to "each person" is the limit of the Company's liability for all damages (including damages for care and loss of services) arising out of bodily injury sustained by one person as the result of any one occurrence. The limit of such liability stated in the Declarations as applicable to "each occurrence" is (subject to the provision respecting each person) the total limit of the Company's liability for all such damage arising out of bodily injury sustained by two or more persons as the result of any one occurrence.

(4) **Limits of liability, Coverages B and C:** The limit of liability under Coverages B and C stated in the Declarations as applicable to "each occurrence" is the total limit of the Company's liability for all damages and all loss under Coverages B and C combined arising out of physical injury to, destruction of, or loss of all property of one or more persons or organizations, including the loss or use of any property attributable to such injury or destruction under Coverage B, as the result of any one occurrence. Subject to the provision respecting "each occurrence", the limit of liability under Coverages B and C stated in the declaration as "aggregate" is the total limit of the Company's liability for all damages and all loss under Coverages B and C combined arising out of physical injury to, destruction of, or loss of property, including the loss or use of any property attributable to such injury or destruction under Coverage B.

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Under Coverage C, the limit of the Company's liability for loss shall not exceed the actual cash value of the property, or if the loss is a part thereof, the actual cash value of such part, at time of loss, nor what it would then cost to repair or replace the property of such part thereof with other of like kind and quality.

(5) **Severability of interests, Coverages A and B:** The term *the insured* is used severally and not collectively. However, inclusion herein of more than one insured shall not operate to increase the limits of the Company's liability.

(6) **Notice:** In the event of an occurrence or loss, written notice containing particulars sufficient to identify the insured and also reasonably obtainable information with respect to the time, place, and circumstances thereof and the names and addresses of the injured and of able witnesses shall be given by or for the insured to the company or any of its authorized agents as soon as is practicable. If a claim is made or a suit is brought against the insured, he shall immediately forward to the Company every demand, notice, summons, or other process received by him or his representative.

(7) **Assistance and cooperation of the insured, Coverages A and B:** The insured shall cooperate with the Company and upon the Company's request attend hearings and trials and assist in making settlements, securing and giving evidence, obtaining the attendance of witnesses, and conducting suits. Except at his own cost, the insured shall not voluntarily make any payment, assume any obligations, or incur any expense other than for first aid to others that shall be imperative at the time of an accident.

(8) **Action against Company, Coverages A and B:** No action shall lie against the Company unless as a condition precedent thereto the insured shall have fully complied with all the terms of this policy, nor until the amount of the insured's obligation to pay shall have been finally determined either by judgment against the insured after actual trial or by written agreement of the insured, the claimant, and the Company. Any person or organization or the legal representative thereof who has secured such judgment or written agreement shall thereafter be entitled to recover under this policy to the extent of the insurance afforded by this policy. No person or organization shall have any right under this policy to join the Company as a part to any action against the insured to determine the insured's liability. Bankruptcy or insolvency of the insured or of the insured's estate shall not relieve the Company of any of its obligations hereunder.

(9) **Action against Company, Coverage C:** No action shall lie against the Company unless as a condition precedent thereto there shall have been full compliance with all the terms of this policy nor until 30 days after proof of loss is filed and the amount of loss is determined as provided in this policy.

(10) **Insured's duties in event of loss, Coverage C:** In the event of loss, the insured shall protect the property, whether or not the loss is covered by this policy. Any further loss attributable to the insured's failure to protect shall not be recoverable under this policy. Reasonable expenses incurred in affording such protection shall be deemed incurred at the company's request.

The insured shall also file with the Company, as soon as practicable after loss, his sworn proof of loss in such form and including such information as the Company may reasonably require and shall, upon the Company's request, exhibit the damaged property.

(11) **Appraisal, Coverage C:** If the insured and the Company fail to agree as to the amount of loss, either may demand an appraisal of the loss within 60 days after the proof of loss is filed. In such event the insured and the Company shall each select a competent appraiser, and the appraisers shall select a competent and disinterested umpire. An award in writing or any two shall determine the amount of loss. The insured and the Company shall each pay his chosen appraiser and shall bear equally the other expenses of the appraisal and umpire. The Company shall not be held to have waived any of its rights by any act relating to appraisal.

(12) **Payment of loss, Coverage C:** The Company may pay for the loss in money, but there shall be no abandonment of the damaged property to the Company.

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(13) **No benefit to bailee coverage:** The insurance afforded by this policy shall not enure directly or indirectly to the benefit of any carrier or bailee (other than the named insured) liable for loss to the property.

(14) **Subrogation:** In the event of any payment under this policy, the Company shall be subrogated to all of the insured's rights of recovery therefor against any person or organization. The insured shall execute and deliver instruments and papers and do whatever else is necessary to secure such rights. The insured shall do nothing after loss to prejudice such rights.

(15) **Application of insurance:** The insurance afforded by this policy is primary insurance. If the insured has other primary insurance against a loss covered by this policy, the Company shall not be liable under the policy for a greater proportion of such loss than the applicable limit of liability stated in the Contract bears to the total applicable limit of all valid and equitable insurance against such loss.

(16) **3-year policy:** A policy period of 3 years is comprised of three consecutive annual periods. Computation and adjustment of earned premium shall be made at the end of each annual period. Aggregate limits of liability as stated in this policy shall apply separately to each annual period.

(17) **Changes:** Notice to any agent of knowledge possessed by any agent or by any other person shall not affect a waiver or a change in any part of this policy or stop the Company from asserting any right under the terms except by endorsement issued to form a part of this policy signed by _____ provided, however, changes may be made in the written portion of the declaration by _____ when initialed by such _____ or by endorsement issued to form a part of this policy signed by such _____. [*Insert titles of authorized company representatives.]

(18) **Assignment:** Assignment of interest under this policy shall not bind the Company until its consent is endorsed hereon.

(19) **Cancellation:** This policy may be cancelled by the named insured by mailing to the Company written notice stating when the cancellation shall become effective. This policy may be cancelled by the Company by mailing to the named insured, Concessionaire, and governmental authority at the respective addresses shown in this policy written notice stating when such cancellation shall be effective (not less than 30 days thereafter). The mailing of notice shall be sufficient proof of notice. The effective date and hour of cancellation stated in the notice shall become the end of the policy period. Delivery of such written notice either by the named insured or the Company shall be equivalent to mailing. If the named insured cancels, the earned premium shall be computed in accordance with the customary short rate table and procedure. If the Company cancels, the earned premium shall be computed pro rata. The premium may be adjusted either at the time cancellation is effected or as soon as practicable after the cancellation becomes effective, but payment or tender of unearned premium is not a condition of cancellation.

(20) **Declarations:** By acceptance of this policy, the named insured agrees that such statements in the Declarations as are made by him are his agreements and representations, that his policy is issued in reliance on the truth of such representations, and that this policy embodies all agreements existing between himself and the Company or any of its agents relating to this insurance.

e. For a policy issued by one company:

In witness whereof, the _____ Indemnity Company has caused this policy to be signed by its president and a secretary at _____ and countersigned on the Declarations page by a duly authorized agent of the Company.

(Facsimile of Signature)
Secretary

(Facsimile of Signature)
President

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For a policy issued by two companies:

In witness whereof, the _____ Indemnity Company has caused this policy with respect to Coverages _____ and such other parts of the policy as are applicable thereto to be signed by its president and a secretary at _____ and countersigned on the Declarations page by a duly authorized agent of the Company.

(Facsimile of Signature)
Secretary

(Facsimile of Signature)
President

(d) **Submitting Copies of Insurance Policies:** Prior to beginning construction operations on or over the railway right of way, the Concessionaire shall submit to the Department evidence of the railway company's approval and a copy of the required insurance policies in accordance with the Agreement. The State will not be responsible for any claims from the Concessionaire resulting from delay in the acceptance of any of these policies by the railway company other than consideration of an extension of time. If the delay is caused by the failure of the Concessionaire or his insurer to file the required insurance policies promptly, an extension of time will not be granted.

(e) **Beginning Construction:** Preliminary contingent work or other work by the railway company may delay the starting or continuous prosecution of the work by the Concessionaire. The Concessionaire shall be satisfied as to the probable extent of such work and its effect on the operations prior to submitting a Proposal. The State will not be responsible for any claims by the Concessionaire resulting from such delays except that an extension of time may be considered.

(f) Arranging for Tests:

1. **Railroad specifications:** When ordering materials that are to conform to railroad specifications, the Concessionaire shall notify the railway company, who will arrange for tests. The Concessionaire shall specify in each order that the materials are to be tested in accordance with the requirements of the railroad specifications and not those of the Department.

2. **Highway specifications:** When ordering materials that are to conform to Standard Specifications, the Concessionaire shall specify in each order that the materials are to be tested in accordance with the Standard Specifications.

107.09—Construction Over or Adjacent to Navigable Waters.

The Concessionaire shall conduct the work on navigable waters so as to ensure the least possible obstruction to navigation and that the existing navigable depths will not be impaired except as may be allowed by a permit issued by the U.S. Coast Guard. The Concessionaire shall also provide and maintain temporary navigation lights and signals required by U.S. Coast Guard regulations for the protection of navigation. When the Concessionaire determines that the work has reached a point where such action may be taken, the Concessionaire shall promptly clear the channel(s) through the structure of falsework, piling, or other obstructions placed therein or caused by the construction of the structure to the satisfaction of the Coast Guard.

107.10—Barricades and Warning Signs.

The Concessionaire shall take all necessary precautions for the protection of the work and the safety of the public as described herein and in Sections 104.04, 107.07, and 512.

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Highways closed to traffic shall be protected by barricades and other warning devices as required by the Department. Barricades and warning devices shall be illuminated where required during darkness and low visibility. The Concessionaire shall erect warning devices in advance of a location on the project where operations or obstructions may interfere with the use of the road by traffic and at all intermediate points where the new work crosses or coincides with an existing roadway. The Concessionaire shall maintain sign faces and reflective surfaces of warning devices in a clean and visible condition. Barricades, warning signs, lights, temporary signals, and other protective devices shall conform to the requirements of Section 512.

107.11—Use of Explosives.

The Concessionaire shall be responsible for damage resulting from the use of explosives. Explosives shall be stored in a secure manner in compliance with federal, state, and local laws and ordinances.

The Concessionaire shall notify each property and utility owner that, the Concessionaire could reasonably have known, has a building, structure, or other installation above or below ground in proximity to the site of the work of his intention to use explosives. Notice shall be given sufficiently in advance to enable the owners to take steps to protect their property. Notice shall not relieve the Concessionaire of responsibility for damage resulting from his blasting operations.

107.12—Protecting and Restoring Property and Landscape.

The Concessionaire shall preserve property and improvements along the lines of and adjacent to the work unless their removal or destruction is called for by the plans. The Concessionaire shall use suitable precautions to prevent damage to such property.

When the Concessionaire finds it necessary to enter on private property, he shall secure from the owner or lessee a written permit for such entry prior to moving thereon. An executed copy of this permit shall be furnished the Department.

The Concessionaire shall be responsible for damage or injury to property during the prosecution of the work resulting from any act, omission, neglect, or misconduct in the method of executing the work or attributable to defective work or materials. This responsibility shall not be released until Final Acceptance of the Project.

When direct or indirect damage is done to property by or on account of any act, omission, neglect, or misconduct in the method of executing the work or in consequence of the nonexecution thereof on the part of the Concessionaire, the Concessionaire shall restore such property to a condition similar or equal to that existing before such damage was done by repairing, rebuilding, or restoring, as may be directed by the Department, or making settlement with the property owner. The Concessionaire shall secure from the owner a release from any claim against the Department without additional compensation therefor. A copy of this release shall be furnished the Department.

107.13—Responsibility for Damage Claims.

The prosecution of third party claims with the scope of the Concessionaire's indemnity is governed by the terms of the Agreement. If Department receives notice of or otherwise has actual knowledge of a claim which it believes is within the scope of the Concessionaire's indemnification under the Agreement, it shall by writing as soon as practicable: (i) inform the Concessionaire of such claim; (ii) send to the

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Concessionaire a copy of all written materials Department has received asserting such claim and (iii) notify the Concessionaire that either: (i) the defense of such claim is being tendered to the Concessionaire; or (ii) Department has elected to conduct its own defense.

107.14—Environmental Stipulations.

The Concessionaire hereby represents (1) that any facility to be used in the performance of the Agreement (unless the Agreement is exempt under the Clean Air Act as amended [42 U.S.C. 1857, et seq., as amended by P.L. 91-604], the Federal Water Pollution Control Act as amended [33 U.S.C. 1251 et seq. as amended by P.L. 92-500], and Executive Order 11738 and regulations in implementation thereof [40 C.F.R., Part 15]) is not listed on the EPA's List of Violating Facilities pursuant to 40 C.F.R. 15.20; and (2) that the Department will be promptly notified prior to the award of the Agreement if the Concessionaire receives any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be used for the Agreement is under consideration to be listed on the EPA's List of Violating Facilities.

No separate payment will be made for the work or precautions described herein.

(a) **Erosion and Siltation:** The Concessionaire shall exercise every reasonable precaution, including temporary and permanent measures, throughout the duration of the project to control erosion and prevent or minimize siltation of rivers, streams, lakes, and impoundments. Siltation control measures shall be applied to erodible material exposed by any activity associated with construction, including local material sources, stockpiles, disposal areas, and haul roads.

Temporary measures shall be coordinated with Agreement work to the extent practicable to ensure economical, effective, and continuous erosion and siltation control. Permanent erosion control measures and drainage facilities shall be installed as the work progresses.

The Concessionaire shall have, within the limits of the project, an employee certified by the Department of Conservation and Recreation in Erosion and Sediment Control who shall inspect erosion and siltation control devices and measures for proper installation and deficiencies immediately after each rainfall, at least daily during prolonged rainfall, and weekly when no rainfall event occurs. Deficiencies shall be corrected immediately. Failure on the part of the Concessionaire to maintain appropriate erosion and siltation control devices in a functioning condition may result in the Department notifying the Concessionaire in writing of specific deficiencies. If the Concessionaire fails to correct or take appropriate actions to correct the specified deficiencies within 24-hours after receipt of such notification, the Department may do one or more of the following, require the Concessionaire to suspend work in the affected areas and concentrate efforts toward correcting the specified deficiencies, hold progress payments, or proceed to correct the specified deficiencies and deduct the entire cost of such work from monies due the Concessionaire. Failure of the Concessionaire to maintain a certified Erosion and Sediment Control employee within the Project Right of Way will result in the Department suspending work related to any land disturbing activity until such time as a certified Erosion and Sediment Control employee is present on the project.

(b) **Pollution:**

1. **Water:** The Concessionaire shall exercise every reasonable precaution throughout the duration of the project to prevent pollution of rivers, streams, and impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, paints, sedimentation, and other harmful material shall not be discharged into or alongside rivers, streams, or impoundments or into channels leading to them.

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Construction discharge water shall be filtered to remove deleterious materials prior to discharge into state waters. During specified spawning seasons, discharges and construction activities in spawning areas of state waters shall be restricted so as not to disturb or inhibit aquatic species that are indigenous to the waters. Neither water nor other effluence shall be discharged onto wetlands or breeding or nesting areas of migratory waterfowl. When used extensively in wetlands, heavy equipment shall be placed on mats. Temporary construction fills and mats in wetlands and flood plains shall be constructed of approved nonerrodible materials and shall be removed by the Concessionaire to natural ground when the Department so directs.

If the Concessionaire dumps, discharges, or spills any oil or chemical that reaches or has the potential to reach a waterway, he shall immediately notify all appropriate jurisdictional state and federal agencies in accordance with the requirements of the Agreement and shall take immediate actions to contain, remove, and properly dispose of the oil or chemical in accordance with the Agreement.

Excavation material shall be disposed of in approved areas above the mean high water mark shown on the plans in a manner that will prevent the return of solid or suspended materials to state waters. If the mark is not shown on the plans, the mean high water mark shall be considered the elevation of the top of stream banks.

Constructing new bridge(s) and dismantling and removing existing bridge(s) shall be accomplished in a manner that will prevent the dumping or discharge of construction or disposable materials into rivers, streams, or impoundments.

Construction operations in rivers, streams, or impoundments shall be restricted to those areas where channel changes are shown on the plans and to those that must be entered for the construction of structures. Rivers, streams, and impoundments shall be cleared of falsework, piling, debris, or other obstructions placed therein or caused by construction operations.

The Concessionaire shall prevent stream constriction that would reduce stream flows below the minimum, as defined by the State Water Control Board, during construction operations.

If it is necessary to relocate an existing stream or drainage facility temporarily to facilitate construction, the Concessionaire shall design and provide temporary channels or culverts of adequate size to carry the normal flow of the stream or drainage facility.

The Concessionaire shall submit a temporary relocation design to the Department for review and acceptance in sufficient time to allow for discussion and correction prior to beginning the work the design covers. Costs for the temporary relocation of the stream or drainage facility shall be included in appropriate items of the Agreement.

Temporary bridges or other structures shall be used wherever an appreciable number of stream crossings will be made.

Conduct all operations near rivers, streams, or impoundments in accordance with applicable water quality permits. Do not conduct clearing or grubbing within 100 feet of the limits of ordinary high water or a delineated wetland until authorized by the Department.

2. **Air:** The Concessionaire shall comply with the provisions of the Agreement and the State Air Pollution Control Law and Rules of the State Air Pollution Control Board, including notifications required therein.

Burning shall be performed in accordance with all applicable local laws and ordinances and under the constant surveillance of watchpersons. Care shall be taken so that the burning of materials does not destroy or damage property or cause excessive air pollution. The Concessionaire shall not burn rubber

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tires, asphalt, used crankcase oil, or other materials that produce dense smoke. Burning shall not be initiated when atmospheric conditions are such that smoke will create a hazard to the motoring public or airport operations. Provisions shall be made for flagging vehicular traffic if visibility is obstructed or impaired by smoke. At no time shall a fire be left unattended.

Asphalt mixing plants shall be designed, equipped, and operated so that the amount and quality of air pollutants emitted will conform to the Rules of the State Air Pollution Control Board.

Emission standards for asbestos incorporated in the EPA's National Emission Standards for Hazardous Air Pollutants apply to the demolition or renovation of any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof that contains friable asbestos.

3. **Noise:** The Concessionaire's operations shall be performed so that exterior noise levels measured during a noise-sensitive activity shall be not more than 80 decibels. *Noise-sensitive activity* is any activity for which lowered noise levels are essential if the activity is to serve its intended purpose. Such activities include those associated with residences, hospitals, nursing homes, churches, schools, libraries, parks, and recreational areas.

Concessionaire shall monitor construction-related noise if requested by local agencies, the Department or neighboring property owners. If construction noise levels exceed 80 decibels, the Concessionaire shall take corrective action before proceeding with operations. The Concessionaire shall be responsible for costs associated with the abatement of construction noise and the delay of operations attributable to noncompliance with these requirements.

Concessionaire shall determine whether certain portions of the project that produce objectionable noise should be restricted or prohibited between 10 P.M. and 6 A.M. If other hours are established by local ordinance, the local ordinance shall govern.

Equipment shall in no way be altered so as to result in noise levels that are greater than those produced by the original equipment.

When feasible, the Concessionaire shall establish haul routes that direct his vehicles away from developed areas and ensure that noise from hauling operations is kept to a minimum.

These requirements are not applicable if the noise produced by sources other than the Concessionaire's operation at the point of reception is greater than the noise from the Concessionaire's operation at the same point.

(c) **Forests:** The Concessionaire shall take all reasonable precautions to prevent and suppress forest fires in any area involved in construction operations or occupied by him as a result of such operations. The Concessionaire shall cooperate with the proper authorities of the state and federal governments in reporting, preventing, and suppressing forest fires. Labor, tools, or equipment furnished by the Concessionaire upon the order of any forest official issued under authority granted the official by law shall not be considered a part of the Agreement. The Concessionaire shall negotiate with the proper forest official for compensation for such labor, tools, or equipment.

107.15—Opening Sections of the Project to Traffic.

Not used – refer to Agreement

107.16—Concessionaire's Responsibility for Work.

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Until Final Acceptance of the Work by the Department in accordance with the requirements of the Agreement, the Concessionaire shall have charge and care thereof and shall take every precaution against damage to any part thereof by action of the elements or from any other cause. The Concessionaire shall rebuild, repair, restore, and make good damage to any portion of the work occasioned by any of the foregoing causes before Final Acceptance and shall bear the expense thereof to the extent provided in and in accordance with the provisions of the Agreement.

In case of suspension of work, as defined elsewhere in the Agreement, the Concessionaire shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the work, provide for erosion control and drainage, and erect any necessary temporary structures, signs, or other facilities at his own expense. During the suspension of work, the Concessionaire shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under the Agreement and shall take adequate precautions to protect new tree growth and other important vegetation against damage.

107.17—Concessionaire's Responsibility for Utility Property and Services.

At points where the Concessionaire's operations are adjacent to the properties of any utility, including railroads, and damage to which might result in considerable expense, loss, or inconvenience, work shall not commence until arrangements necessary for the protection thereof have been completed.

The Concessionaire shall cooperate with owners of utility lines so that removal and adjustment operations may progress in a reasonable manner, duplication of adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.

If any utility service is interrupted as a result of accidental breakage or of being exposed or unsupported, the Concessionaire shall promptly notify the proper authority and shall cooperate with the authority in the restoration of service. If utility service is interrupted, repair work shall be continuous until service is restored. No work shall be undertaken around fire hydrants until the local fire authority has approved provisions for continued service. When the Concessionaire's work operations require the disconnection of "in service" fire hydrants, the Concessionaire shall notify the locality's fire department or communication center at least 24 hours prior to disconnection. In addition, the Concessionaire shall notify the locality's fire department or communications center no later than 24 hours after reconnection of such hydrants. The Concessionaire shall be responsible for any damage to utilities that is attributable to his neglect or methods of performing the work.

Nothing in this section shall be construed to be in conflict with Section 107.12.

The Concessionaire shall comply with all requirements of the *Virginia Underground Utility Damage Prevention Act* § 56-265.14 (the Miss Utility law). The Concessionaire shall wait a minimum of 48 hours after notifying the Miss Utility notification center before commencing excavation work. The Concessionaire may commence excavation work after 48 hours only if confirmed through the Ticket Information Exchange (TIE) System that all applicable utilities have either marked their underground line locations or reported that no lines are present in the work vicinity. The Concessionaire shall wait an additional 24 hours before commencing excavation operations if any utility operators have failed to respond to the Ticket Information Exchange within the first 48 hours.

107.18—Furnishing Right of Way.

The Concessionaire shall secure necessary rights of way and easements in advance of construction, in accordance with the provisions of the Agreement. The Department will not be responsible for any delay in the acquisition of a right of way other than as provided for in the Agreement. Easements for temporary

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uses and detours requested by the Concessionaire and approved by the Department in lieu of a detour within the right of way or easement area shall be acquired by the Concessionaire without the Department being a party to the agreement.

107.19—Personal Liability of Public Officials.

Not used – See agreement

107.20—No Waiver of Legal Rights.

Not used – See Agreement

SECTION 108—PROSECUTION AND PROGRESS OF WORK

108.01—Subcontracting.

The use of subcontractors or other disposition of any portion of the Agreement work shall not relieve the Concessionaire of any responsibility for the fulfillment of the entire Agreement.

108.02—Notice to Proceed.

The Department will issue a notice to proceed (Work Commencement Approval) in accordance with the Agreement.

108.03—Prosecution of Work.

Work shall be conducted in such a manner and with sufficient materials, equipment, tools, and labor as are necessary to ensure its completion in accordance with the Agreement. Where the Concessionaire discontinues the work temporarily, the Concessionaire shall give sufficient notice to the Department at least 24 hours in advance of resuming operations.

108.04—Critical Materials.

When the supply of critical materials becomes scarce because of the needs of national defense or industrial conditions beyond the control of the Department or the Concessionaire, the provisions of this Section will become applicable to the Agreement.

When all items of work involving noncritical materials have been completed by the Concessionaire or have progressed to a point where no further work is practicable prior to receipt of critical materials, a complete suspension of work will be granted by the Department. Requests for partial suspension orders because of delays attributable to nonreceipt of critical materials will be considered on the basis of merit in each case.

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108.05—Limitation of Operations.

The Concessionaire shall conduct the work in a manner and sequence that will ensure its expeditious completion with the least interference to traffic and shall have due regard for the location of detours and provisions for handling traffic.

108.06—Gratuities.

Gifts, gratuities, or favors shall not be given or offered by the Concessionaire to personnel of the Department. A gift, gratuity, or favor of any nature whatsoever or offer of such by the Concessionaire shall be a violation of this provision.

The Concessionaire shall not employ any personnel of the Department for any services without the prior written consent of the Department.

If the Department determines that the Concessionaire or the Concessionaire's employees, representatives, or agents of any person acting in his behalf have violated this provision, the Concessionaire may, at the discretion of the Department, be disqualified from bidding on future contracts with the Department. Any implicated employees, agents, or representatives of the Concessionaire may be prohibited from working on any contract awarded by the Department. The decision of the Department shall be binding on all parties. A Concessionaire so disqualified may be reinstated only by petition to and approval by the Board.

108.07—Character of Workers, Work Methods, and Equipment.

Workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special or skilled work shall have sufficient experience in such work and in the operation of equipment required to perform it properly and satisfactorily.

Any person employed by the Concessionaire or any Subcontractor who, in the opinion of the Department, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Department, be removed forthwith by the Concessionaire or Subcontractor employing the person and shall not be employed again on any portion of the work without the approval of the Department. If the Concessionaire fails to remove the person or furnish suitable and sufficient personnel for proper prosecution of the work, the Department may seek remedies specified in the Agreement.

Equipment shall be of sufficient size and in such mechanical condition as to meet the requirements of the work and produce a satisfactory quality of work. Equipment shall be such that no damage to the roadway, adjacent property, or other highways will result from its use. Concessionaire shall order the removal and require replacement of unsatisfactory equipment.

When methods and equipment to be used by the Concessionaire are not prescribed in the Agreement, the Concessionaire is free to use methods or equipment that will accomplish the Agreement work in conformity with the requirements of the Agreement.

When the Agreement specifies that construction be performed by the use of particular methods and equipment, they shall be used unless others are authorized by the Department. If the Concessionaire desires to use a different method or type of equipment, he may request permission from the Department to do so. The request shall be in writing and shall include a full description of the methods and equipment he proposes to use and an explanation of the reasons for desiring to make the change. If permission is given, it will be on the condition that the Concessionaire shall be fully responsible for producing construction work in conformity with Agreement requirements. If, after trial use of the substituted methods

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or equipment, the Department determines that the work produced does not conform to the requirements of the Agreement, the Concessionaire shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Concessionaire shall remove any deficient work and replace it with work of the specified quality or take such other corrective action as the Department may direct. No change will be made in the basis of payment for the construction items involved or the Agreement Time limit as the result of authorizing a change in methods or equipment under these provisions.

108.08—Baseline Schedule.

The Concessionaire shall submit a Baseline Schedule and updates in accordance with the requirements of the Agreement. If a Department Project Enhancement is authorized after the Work Period, the pertinent provisions and intent of Article 7 shall apply, unless otherwise agreed to by the parties in the Work Order (change order).

108.09—Determination and Extension of Agreement Time Limit.

108.9.1 Time

If a Department Project Enhancement is authorized after the Work Period, the pertinent provisions and intent of Article 7 shall apply, unless otherwise agreed to by the parties in the Work Order (change order).

108.9.2 Time Impact Analysis for Proposed Time Extensions

If a Department Project Enhancement is authorized after the Work Period, the pertinent provisions and intent of Article 7 shall apply, unless otherwise agreed to by the parties in the Work Order (change order).

108.9.3 Work Orders

Subject to the requirements under the Agreement, a Work Order (change order), is a written instrument on VDOT Form C-10, issued after the Agreement Date signed by Department and the Concessionaire, stating their agreement upon all of the following:

- The scope of the change in the Work;
- The amount of the adjustment to the Agreement price; and
- The extent of the adjustment to the Agreement time(s).

All changes in the Work authorized by applicable Work Order shall be performed under the applicable conditions of the Agreement. If a Department Project Enhancement is authorized after the Work Period, the pertinent provisions and intent of Article 7 shall apply, unless otherwise agreed to by the parties in the Work Order (change order).

Department and the Concessionaire shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

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If Department requests a proposal for a change in the Work from the Concessionaire and subsequently elects not to proceed with the change, a Work Order shall be issued to reimburse the Concessionaire for reasonable costs incurred for estimating services, design services and services involved in the preparation of proposed revisions to the contract documents.

108.9.4 Contract Change Directive

Subject to the requirements under the Agreement, a Contract Change Directive (CCD) is a written order prepared and signed by Department, directing a change in the Work prior to agreement on an adjustment in the Agreement time or price. If a Department Project Enhancement is authorized after the Work Period, the pertinent provisions and intent of Article 7 shall apply, unless otherwise agreed to by the parties in the Work Order (change order).

108.9.5 Minor Changes in the Work

Minor changes in the Work do not involve an adjustment in the Agreement time or price and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Agreement. The Concessionaire may make minor changes in the Work consistent with the intent of the Agreement, provided, however that the Concessionaire shall promptly inform Department and the QAM, in writing, of any such changes and record such changes on the documents maintained by the Concessionaire.

108.9.6 Contract Price Adjustments

Not Used – See Agreement

108.9.7 Emergencies

In any emergency affecting the safety of persons and/or property, the Concessionaire shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Agreement price or time on account of emergency work shall be determined as provided in the Agreement.

108.10—Suspension of Work Ordered by the Department.

Not used – See Agreement

108.11—Failure to Complete on Time.

Not used – See Agreement

SECTION 109—MEASUREMENT AND PAYMENT

109.1 – Measurement of Quantities.

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Not used – refer to the Agreement.

109.02 – Plan Quantities.

Not used – refer to the Agreement.

109.03 – Scope of Payment.

Not used – refer to the Agreement

109.04 – Compensation for Altered Quantities.

Not used – refer to the Agreement

109.05 – Extra and Force Account Work.

Subject to the requirements under the Agreement, extra work performed will be paid for at the unit prices or lump sum specified in the work order. In lieu of such agreement, the Department may require the Concessionaire to do such work on a force account basis to be compensated in the following manner:

- (a) **Labor:** Unless otherwise approved, the Concessionaire will receive the rate of wage or scale as set forth in his most recent payroll for each classification of laborers, foremen, and superintendent(s) who are in direct charge of the specific operation. The time allowed for payment will be the number of hours such workers are actually engaged in the work. If overtime work is authorized, payment will be at the normal overtime rate set forth in the Concessionaire's most recent payroll. If workers performing the class of labor needed have not been employed on the project, mutually agreed on rates will be established. However, the rates shall be not less than those predetermined for the project, if applicable. An amount equal to 45 percent of the approved force account payroll will be included in the payment for labor to cover administrative costs, profit, and benefits and/or deductions normally paid by the Concessionaire.
- (b) **Insurance and Tax:** The Concessionaire will receive an amount equal to 25 percent of the approved force account payroll exclusive of additives of administrative cost as full compensation for property damage and liability, workers' compensation insurance premiums, unemployment insurance contributions, and social security taxes of force account work.
- (c) **Materials:** The Concessionaire will receive the actual cost of materials accepted by the Department that are delivered and used for the work including taxes, transportation, and handling charges paid by the Concessionaire, exclusive of labor and equipment rentals as herein set forth, to which 15 percent of the cost will be added for administration and profit. The Concessionaire shall make every reasonable effort to take advantage of trade discounts offered by material suppliers. Any discount received shall accrue to the Department. Salvageable temporary construction materials will be retained by the Department, or their appropriate salvage value shall be credited to the State, as agreed on by the Department.

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- (d) **Equipment:** The Concessionaire shall provide the Department a list of all equipment to be used in the work. For each piece of equipment, the list shall include the serial number; date of manufacture; location from which equipment will be transported; and, for rental equipment, the rental rate and name of the company from which it is rented. The Concessionaire will be paid hourly rental rates for pieces of machinery, equipment, and attachments necessary for prosecution of the work that are approved for use by the Department. Hourly rental rates will not exceed 1/176 of the monthly rates of the schedule shown in the *Rental Rate Blue Book* modified in accordance with the *Blue Book* rate adjustment tables that are current at the time the force account is authorized. Adjustment factors or rate modifications indicated on area maps in the *Blue Book* will not be considered when acceptable rates are determined. Hourly rental rates for equipment held in ready will be at 50 percent of the rate paid for equipment in use.

Payment will be made for the total hours the equipment is in use. When equipment is in use less than 40 hours for any given week and is held in ready, payment for held-in-ready time will be allowed for up to 40 hours, minus hours in use. Payment will not be made for the time that equipment is on the project in excess of 24 hours prior to its actual use in the force account work. An amount equal to the *Blue Book* estimated operating cost per hour will be paid for all hours the equipment is in use. This operating cost shall be full compensation for fuel, lubricants, repairs, greasing, fueling, oiling, small tools, and other incidentals. No compensation will be paid for the use of machinery or equipment not authorized by the Department.

The Concessionaire will be paid freight cost covering the moving of equipment to and from the specific force account operation provided such cost is supported by an invoice showing the actual cost to the Concessionaire. However, such payment will be limited to transportation from the nearest source of available equipment. If equipment is not returned to the nearest equipment storage lot but is moved to another location, the freight cost paid will not exceed the cost of return to the storage lot.

The rates for equipment not listed in the *Blue Book* schedule shall not exceed the hourly rate being paid for such equipment by the Concessionaire at the time of the force account authorization. In the absence of such rates, prevailing rates being paid in the area where the work is contemplated shall be used.

If the Concessionaire does not possess or have readily available equipment necessary for performing the force account work and such equipment is rented from a source other than a company that is an affiliate of the Concessionaire, payment will be based on actual invoice rates, to which 15 percent of the invoice cost will be added for administrative cost and profit. If the invoice rate does not include the furnishing of fuel, lubricants, repairs, and servicing, it will be converted to an hourly rate, and an amount equal to the *Blue Book* estimated operating cost per hour will be added for each hour the equipment is in use.

- (e) **Miscellaneous:** No additional allowance will be made for attachments that are common accessories for equipment as defined in the *Blue Book*, general superintendents, timekeepers, secretaries, the use of small tools, or other costs for which no specific allowance is herein provided. The Concessionaire will receive compensation equal to the cost of the bond, special railroad insurance premiums, and other additional costs necessary for the specific force account work as determined by the Concessionaire. The Concessionaire shall supply documented evidence of such costs.
- (f) **Compensation:** The compensation as set forth in this Section shall be accepted by the Concessionaire as payment in full for work performed on a force account basis. At the

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end of each day, the Concessionaire's representative and the Inspector shall compare and reconcile records of the cost of work done as ordered on a force account basis.

If all or a portion of the force account work is performed by an approved Subcontractor, the Concessionaire will be paid 10 percent of the subcontract net force account costs before additives are applied to cover his profit and administrative cost. The amount resulting will not be subject to any further additives. The itemized statements of costs as required by (g) herein shall be submitted on a form that separates the subcontracted portions of the force account labor, materials, and equipment from the other force account costs.

- (g) **Statements:** Payments will not be made for work performed on a force account basis until the Concessionaire has furnished the Department duplicate itemized statements of the cost of such work detailed as follows:
1. payroll indicating name, classification, date, daily hours, total hours, rate, and extension of each laborer, foreman, and superintendent
 2. designation, dates, daily hours, total hours, rental rate, and extension for each unit of equipment
 3. quantities of materials, prices, and extensions
 4. transportation of materials

Statements shall be accompanied and supported by invoices for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Concessionaire's stock, then in lieu of the invoices, the Concessionaire shall furnish an affidavit certifying that such materials were taken from his stock; that the quantity claimed was actually used; and that the price, transportation, and handling claimed represented his actual cost.

109.06 – Eliminated Items.

Not used – refer to the Agreement.

109.07 – Partial Payments.

Not used – refer to the Agreement.

109.08 – Payment for Material on Hand.

The intent of this section is to enable the Concessionaire to receive payment for fabrication or delivery of significant materials items such as, but not limited to, bridge beams, large steel orders and large precast elements. Payment will not be made for minor quantities or materials orders that are not reflected on the approved CPM schedule. When requested in writing by the Concessionaire, and approved by the Department as part of the CPM schedule, payment allowances may be made for material secured for use on the project. The Application for Payment may request payment for equipment and materials not yet incorporated into the Project, provided that: (i) Department, in its sole discretion, agrees that it is willing to

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allow payment for such equipment and materials; (ii) the Independent Engineer certifies to the Concessionaire and the Department that the equipment and materials are suitably stored at either the Site or another acceptable location; (iii) the equipment and materials are protected by suitable insurance; and (iv) upon payment, Department will receive the equipment and materials free and clear of all liens and encumbrances.

Such material payments will be for only those actual quantities identified in the contract, approved work orders, or otherwise documented as required to complete the project and shall be in accordance with the following terms and conditions:

- (a) **Structural Units:** An allowance of 100 percent of the cost to the Design-Build Contractor for structural steel materials for fabrication not to exceed 60 percent of the contract price may be made when such material is delivered to the fabricator and has been adequately identified for exclusive use on the project. An allowance of 100 percent of the cost to the Design-Build Contractor for superstructure units, not to exceed 90 percent of the contract price, may be made when they have been fabricated. Prior to the granting of such allowances, the structural steel materials and fabricated units shall have been tested or certified and found acceptable to the Department and shall have been stored in accordance with the requirements specified herein. Allowances will be based on invoices, bills, or the estimated value as approved by the Department and will be subject to the retainage requirements of Section 109.07.
- (b) **Other Materials:** For reinforcing steel, aggregate, pipe, guardrail, signs and sign assemblies, and other nonperishable material, an allowance of 100 percent of the cost to the Design-Build Contractor for materials, not to exceed 90 percent of the contract price, may be made when such material is delivered and stockpiled or stored in accordance with the requirements specified herein. However, no allowance will be made for cement, seed, plants, fertilizer, and other perishable material. Prior to the granting of such allowances, the material shall have been tested and found acceptable to the Department. Allowances will be based on invoices, bills, or the estimated value of the material as approved by the Department.
- (c) **Excluded Items:** No allowance will be made for fuels, form lumber, falsework, temporary structures, or other work that will not become an integral part of the finished construction. No allowance will be made for electrical or computer equipment until it is completely installed, operational, and accepted in conformance with the contract requirements.
- (d) **Storage:** Material for which payment allowance is requested shall be stored in an approved manner in areas where damage is not likely to occur. If any of the stored materials are lost or become damaged, the Concessionaire shall repair or replace them. If payment allowance has been made prior to such damage or loss, the amount so allowed or a proportionate part thereof will be deducted from the next progress estimate payment and withheld until satisfactory repairs or replacement has been made. When it is determined to be impractical to store materials within the limits of the project, the Department may approve storage on private property or, for structural units, on the manufacturer's or fabricator's yard. Requests for payment allowance for such material shall be accompanied by a release from the owner or tenant of such property or yard agreeing to permit the removal of the materials from the property without cost to the State.
- (e) **Materials Inventory:** If the Concessionaire requests a payment allowance for properly stored material, he shall submit a certified and itemized inventory statement to the Department with the corresponding progress estimate. The statement shall be submitted on forms furnished by the Department and shall be accompanied by invoices or other documents that will verify the material's cost. Following the initial submission, the Concessionaire shall submit to the Department a monthly-certified update of the itemized inventory statement within the same time frame. The updated inventory statement shall show additional materials received and stored with invoices or other documents and shall list materials removed from storage since the last certified inventory statement, with appropriate cost data reflecting the change in the inventory. If the Concessionaire fails to submit the monthly-certified update

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within the specified time frame, the Department will deduct the full amount of the previous statement from the progress estimate.

At the conclusion of the project, the cost of material remaining in storage for which payment allowance has been made will be deducted from the progress estimate.

109.09 – Final Payment.

Not used – refer to the Agreement.

109.10 – Payment.

Not used – refer to the Agreement.

SECTION 110—MISCELLANEOUS PROVISIONS

110.01—Common Carrier Rates.

Not used – see the Agreement.

110.02—Labor and Wages.

The Concessionaire shall comply with the provisions and requirements of the State's workers' compensation law and public statutes that regulate hours of employment on public work. Job orders placed with a State Employment Service shall indicate that employment preference will be given to veterans referred for employment. Advertisements in newspapers or other publications for project employees shall include the notation "Employment Preference to Veterans."

(a) **Predetermined Minimum Wages:** The provisions of laws requiring the payment of a minimum wage of a predetermined minimum wage scale for the various classes of laborers and mechanics, when such a scale is incorporated in the Agreement, shall be expressly made a part of any Agreement hereunder. The Concessionaire and his agents shall promptly comply with all such applicable provisions.

Any classification not listed and subsequently required shall be classified or reclassified in accordance with the wage determination. If other classifications are used, omission of classifications shall not be cause for additional compensation. The Concessionaire shall be responsible for determining local practices with regard to the application of the various classifications. For additional details of predetermined minimum wage rates, see Attachment 5 to the Technical Requirements.

(b) **Labor Rate Forms:** The Concessionaire shall complete Form C-28, indicating by classification the total number of employees, excluding executive and administrative employees, employed on the project. The Concessionaire shall also indicate on the form the rate per hour for each classification. The Concessionaire shall submit an original and two copies of the form prior to the due date of the second estimate for payment and for each 90-day period thereafter until the work specified in the Agreement has been completed.

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If at the time of final acceptance the period since the last labor report is 30 days or more, the Concessionaire shall furnish an additional labor report as outlined herein prior to payment of the final estimate.

110.03—Equal Employment Opportunity.

The Concessionaire shall comply with the applicable provisions of presidential executive orders and the rules, regulations, and orders of the President's Committee on Equal Employment Opportunity.

The Concessionaire shall maintain the following records and reports as required by the Agreement EEO provisions:

- record of all applicants for employment
- new hires by race, work classification, hourly rate, and date employed
- minority and nonminority employees employed in each work classification
- changes in work classifications
- employees enrolled in approved training programs and the status of each
- minority Subcontractors with meaningful minority group representation
- copies of Form C-57 submitted by Subcontractors

If the Agreement has a pay item for trainees, the Concessionaire shall submit semiannual training reports in accordance with the instructions shown on the forms furnished by the Department. If the Concessionaire fails to submit such reports in accordance with the instructions, his monthly progress estimate for payment may be delayed.

The Concessionaire shall cooperate with the Department in carrying out EEO obligations and in the Department's review of activities under the Agreement. The Concessionaire shall comply with the specific EEO requirements specified herein and shall include these requirements in every subcontract of \$10,000 or more with such modification of language as may be necessary to make them binding on the Subcontractor.

(a) **EEO Policy:** The Concessionaire shall accept as operating policy the following statement:

It is the policy of this Company to assure that applicants are employed and that employees are treated during employment without regard to their race, religion, sex, color, or national origin. Such action shall include employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship or on-the-job training.

(b) **EEO Officer:** The Concessionaire shall designate and make known to the Department an EEO Officer who can effectively administer and promote an active Concessionaire EEO program and who shall be assigned adequate authority and responsibility to do so.

(c) **Dissemination of Policy:**

1. Members of the Concessionaire's staff who are authorized to hire, supervise, promote, and discharge employees or recommend such action or are substantially involved in such action shall be made fully cognizant of and shall implement the Concessionaire's EEO policy and contractual

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responsibilities to provide equal employment opportunity in each grade and classification of employment. The following actions shall be taken as a minimum:

- a. Periodic meetings of supervisory and personnel office employees shall be conducted before the start of work and at least once every 6 months thereafter, at which time the Concessionaire's EEO policy and its implementation shall be reviewed and explained. The meetings shall be conducted by the EEO Officer or another knowledgeable company official.
 - b. New supervisory or personnel office employees shall be given a thorough indoctrination by the EEO Officer or another knowledgeable company official covering all major aspects of the Concessionaire's EEO obligations within 30 days following their reporting for duty with the Concessionaire.
 - c. The EEO Officer or appropriate company official shall instruct employees engaged in the direct recruitment of employees for the project relative to the methods followed by the Concessionaire in locating and hiring minority group employees.
2. In order to make the Concessionaire's EEO policy known to all employees, prospective employees, and potential sources of employees such as schools, employment agencies, labor unions where appropriate, and college placement officers, the Concessionaire shall take the following actions:
 - a. Notices and posters setting forth the Concessionaire's EEO policy shall be placed in areas readily accessible to employees, applicants for employment, and potential employees.
 - b. The Concessionaire's EEO policy and the procedures to implement such policy shall be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
- (d) Recruitment:
1. When advertising for employees, the Concessionaire shall include in all advertisements for employees the notation "An Equal Opportunity Employer" and shall insert all such advertisements in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.
 2. Unless precluded by a valid bargaining agreement, the Concessionaire shall conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, state employment agencies, schools, colleges, and minority group organizations. The Concessionaire shall identify sources of potential minority group employees and shall establish procedures with such sources whereby minority group applicants may be referred to him for employment consideration.
 3. The Concessionaire shall encourage his employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all employees. In addition, information and procedures with regard to referring minority group applicants shall be discussed with employees.
- (e) **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel action of any type shall be taken without regard to race, color, religion, sex, or national origin.
1. The Concessionaire shall conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of personnel.
 2. The Concessionaire shall periodically evaluate the spread of wages paid within each classification to determine whether there is evidence of discriminatory wage practices.

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3. The Concessionaire shall periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Concessionaire shall promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, corrective action shall include all affected persons.

4. The Concessionaire shall investigate all complaints of alleged discrimination made to him in connection with obligations under the Agreement, attempt to resolve such complaints, and take appropriate corrective action. If the investigation indicates that the discrimination may affect persons other than the complainant, corrective action shall include those persons. Upon completion of each investigation, the Concessionaire shall inform every complainant of all avenues of appeal.

(f) Training:

1. The Concessionaire shall assist in locating, qualifying, and increasing the skills of minority group and women employees and applicants for employment.

2. Consistent with work force requirements and as permissible under federal and state regulations, the Concessionaire shall make full use of training programs, i.e., apprenticeship and on-the-job training programs for the geographical area of Agreement performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

3. The Concessionaire shall advise employees and applicants for employment of available training programs and the entrance requirements for each.

4. The Concessionaire shall periodically review the training and promotion potential of minority group employees and shall encourage eligible employees to apply for such training and promotion.

5. If the Agreement does not provide a separate pay item for trainees, the cost associated with the training specified herein shall be included in the price Proposal for other items in the Agreement.

6. If the Agreement provides a pay item for trainees, training shall be in accordance with the requirements of Section 518.

(g) **Unions:** If the Concessionaire relies in whole or in part on unions as a source of employees, best efforts shall be made to obtain the cooperation of such unions to increase opportunities for minority groups and women in the unions and to effect referrals by such unions of minority and women employees. Actions by the Concessionaire, either directly or through his Concessionaire's Association acting as agent, shall include the following procedures:

1. In cooperation with the unions, best efforts shall be used to develop joint training programs aimed toward qualifying more minority group members and women for membership in the unions and to increase the skills of minority group employees and women so that they may qualify for higher-paying employment.

2. Best efforts shall be used to incorporate an EEO clause into union agreements to the end that unions will be contractually bound to refer applicants without regard to race, color, religion, sex, or national origin.

3. Information shall be obtained concerning referral practices and policies of the labor union except that to the extent the information is within the exclusive possession of the union. If the labor union refuses to furnish the information to the Concessionaire, the Concessionaire shall so certify to the Department and shall set forth what efforts he made to obtain the information.

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4. If a union is unable to provide the Concessionaire with a reasonable flow of minority and women referrals within the time limit set forth in the union agreement, the Concessionaire shall, through his recruitment procedures, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified or qualifiable minority group persons and women. If union referral practice prevents the Concessionaire from meeting the EEO requirements, the Concessionaire shall immediately notify the Department.

(h) **Subcontracting:** The Concessionaire shall comply with the Agreement.

The Concessionaire shall use best efforts to ensure Subcontractor compliance with his EEO obligations.

(i) **Records and Reports:** The Concessionaire shall keep such records as are necessary to determine compliance with his EEO obligations in accordance with Section 5 of the Technical Requirements as applicable.

110.04—Use of Minority Business Enterprises (MBEs).

Concessionaire shall comply with all of the requirements of Special Provision 110.04, as amended and attached in Attachment 5 herewith and in accordance with the Agreement. ”

110.05—Construction Safety and Health Standards.

It is a condition of the Agreement, and shall be made a condition of each subcontract entered into pursuant to the Agreement, that the Concessionaire and any Subcontractor shall not require any worker employed in performance of the Agreement to work in surroundings or under working conditions that are unsanitary, hazardous, or dangerous to their health or safety, as determined under construction safety and health standards promulgated by the U.S. Secretary of Labor in accordance with the requirements of Section 107 of the Contract Work Hours and Safety Standards Act.

The Concessionaire shall comply with the Virginia Occupational Safety and Health Standards adopted under Section 40.1-22 of the *Code of Virginia* and the duties imposed under Section 40.1-51.1 of the Code. Any violation of the requirements or duties that is brought to the attention of the Concessionaire by the Department or any other person shall be immediately abated.

110.06—Bulletin Boards and Posting Official Notices.

Except for maintenance contracts, the Concessionaire shall furnish, erect, and maintain at least two bulletin boards having dimensions of at least 48 inches in width and 36 inches in height at locations readily accessible to all personnel concerned with the project. The boards shall be erected immediately upon initiation of the contract work and shall be maintained until the completion of such work, at which time they shall be removed from the project. Each bulletin board shall be equipped with a removable glass or plastic cover that when in place will protect posters from weather or damage. The Concessionaire shall promptly post official notices on the bulletin boards. The costs for such work shall be included in the Agreement.

110.07—Certification of Nonsegregated Facilities.

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The Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities for highway construction contracts exceeding \$10,000 that are not exempt from the provisions of the equal opportunity clause, requires that Offerors neither maintain nor provide facilities for employment that are segregated on a basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. If the Agreement exceeds \$10,000 and is not exempt from the provisions of the equal opportunity clause, the Offeror by signing the Proposal will be deemed to have signed and agreed to the provisions of the certification. If the Agreement exceeds \$10,000 and is not exempt from the provisions of the equal opportunity clause, the Concessionaire shall forward the following notice to prospective Subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed \$10,000 and are not exempt from the provisions of the equal opportunity clause:

NOTICE TO PROSPECTIVE SUBCONTRACTORS AND MATERIAL SUPPLIERS OF REQUIREMENT FOR CERTIFICATION OF NONSEGREGATED FACILITIES

(a) Subcontractors and material suppliers are cautioned as follows: By signing the subcontract or entering into a material supply agreement, the Subcontractor or material supplier will be deemed to have signed and agreed to the provisions of the Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, prior to the award of the subcontract or consummation of a material supply agreement if such subcontract or agreement exceeds \$10,000 and is not exempt from the provisions of the equal opportunity clause. This certification provides that the Subcontractor or material supplier does not maintain, or provide for his employees, facilities that are segregated on the basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the Subcontractor or material supplier will not maintain such segregated facilities.

(b) Subcontractors or material suppliers receiving subcontract awards or material supply agreements exceeding \$10,000, which are not exempt from the provisions of the equal opportunity clause, will be required to provide for the forwarding of this notice to prospective Subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed \$10,000 and are not exempt from the provisions of the equal opportunity clause.

110.08 Exhibits.

The following exhibits are specifically made a part of, and incorporated by reference into, these Division I Amendments to the Standard Specifications:

EXHIBIT 102.05(a) -- SPECIAL PROVISION FOR USE OF DOMESTIC MATERIAL

EXHIBIT 102.05(b) -- FHWA -1273, REQUIRED CONTRACT PROVISIONS FEDERAL-AID
CONSTRUCTION CONTRACTS

EXHIBIT 102.05(c) -- NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL
EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

EXHIBIT 110.02 -- PREDETERMINED MINIMUM WAGE RATES

EXHIBIT 110.04 -- SPECIAL PROVISION FOR SECTION 110.04

END OF DIVISION I AMENDMENTS TO THE STANDARD SPECIFICATIONS

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ATTACHMENT 1.6A: Right of Way Responsibility Matrix

Attachment 1.6A: Right of Way Responsibility Matrix

Attachment 1.6A – Right of Way Responsibility Matrix

Table 1.6a: Right of Way Responsibility Matrix		
ROW Activity Description	Responsibility	
	Concessionaire	Department
<i>Pre-Acquisition Activities (excluding survey & ESA's listed separately):</i>		
Preliminary Right of Way Activities (i.e. preparation of ROW Acquisition Plan)	X	
Preliminary Right of Way Analysis & Estimate	X	
Public Involvement and early contacts	X	
<i>Acquisition and Relocation Services</i>		
Provide preliminary title reports and title binders (Note 1)	X	
Provide property acquisition appraisals (Note 2)	X	
Relocation interviews and contact	X	
Provide appraisal review and review coordination	X	
Negotiate property acquisitions (Note 3)	X	
Calculate relocation benefits, provide assistance services and finalize relocations	X	
Settle acquisitions and initiate eminent domain proceedings	X	
Assume control of properties, provide property management services	X	
All Relocation costs, including moving expenses		X
Building Demolition	X	
Asbestos Abatement		X
ROW Acquisition Costs (all fee takes, permanent easements, utilities easements, and temporary construction easements)		X
Title Insurance Costs (Note 1)		X
Closing Costs		X
<i>Environmental Services</i>		

**Attachment to Exhibit N – Technical Requirements
Attachment 1.6A**

Table 1.6a: Right of Way Responsibility Matrix		
ROW Activity Description	Responsibility	
	Concessionaire	Department
Perform Phase I Environmental Site Assessments (or TSP's) Phase II ESA's and any required Phase III remediation planning Remediation	X	X X
Right of Way Survey Activities		
Research and survey private property lines adjacent to Route 495 Stake prop. Right of way and easement for ROW acquisition or Utility relocation Stake acquisition areas for eminent domain trials	X X X	
Eminent Domain		
G&O support services (up to 12 months from last filing) G&O support services (beyond 12 months from last filing) Appraisal updates and expert witness testimony Attorney fees	X	X X X
Notes:		
<p>1. All title research shall be performed for properties from which right of way or easements are required. A 60-year title abstract will be provided for all parcels from which fee simple right of way is to be conveyed. Concessionaire, or its subcontractor, will have a binder issued stating the conditions for obtaining title insurance upon completion of closing.</p> <p>2. Waiver appraisal process is assumed on all properties with an acquisition value of under \$10,000.</p> <p>3. Negotiations on each parcel shall be based upon just compensation as approved by VDOT. Concessionaire may prepare documents such as option agreements, right of entry, landowner letters, etc., in cooperation with VDOT's Attorney General, during negotiations. The landowner will be given a reasonable period of time following answers to questions being provided, to consider the offer and make a decision. Depending on the complexities of the proposed acquisition the period for response should be no more than 30 days. Concessionaire shall prepare an acquisition reports (final report of negotiations) at the conclusion of negotiations. This report is to include all data assembled in the landowner contact. This report shall be submitted to the Closing Attorney along with other documents required for proper conclusion of the acquisition.</p>		

Attachment 1.6B – Right of Way Acquisition Schedule

Attachment 1.6B – Right of Way Acquisition Schedule

The following schedule contains the ROW information known at the Closing Date and is subject to change.

Table 1.6b: Right of Way Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Family Displacement	Personal Prop. Displacement	ROW (Fee)
001	0704100004 0704100005 0704100006	Shenandoah's Pride LLC	5301 Port Royal Rd 5325 Port Royal Rd 5201 Port Royal Rd			X
002	0704100503 0704100503A	Elman Springfield Associates LP	5271 Port Royal Rd 5285 Port Royal Rd			X
003	0704100002B 1	Merrifield Metro Center LLC	5265 Port Royal Rd			X
213	07040459001 8	Hardev Singh	5352 Ravensworth Rd			X
214	07040459001 7	John Thomas Chrzastek	5354 Ravensworth Rd			X
215	07040459001 6	Laura M. Jones	5356 Ravensworth Rd			X
216	07040459001 5	Nhat M Nguyen	5358 Ravensworth Rd			X
007	0704010002	Fairfax County Park Authority	Wakefield Park 8100 Braddock Rd			X
009	0704010002A	Park Authority, Fairfax County	Fitzhugh Park 4966 American Dr			X
010	0702010022	Carl M. Freeman Associates, Inc.	Vacant land			X
011	0702010001H	Oakhurst Farms Inc.	Vacant land			X
099	0702010001G	Moses H. Karkenny	Vacant land			X
013	0702010014	John F. Battaglia	Vacant land			X
019	059418P 059418D	Lafayette Village Community Association C/O Armstrong Associates Inc.	Private Open Space			X

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Attachment 1.6B

Table 1.6b: Right of Way Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Family Displacement	Personal Prop. Displacement	ROW (Fee)
020	059222A	Chaconas Estates, Homes Association C/O Robert Redman	Private Open Space			X
021	059220A	Gallows Estates Community Association C/O S. Brockington	Private Open Space			X
023	0592050005	Ana G. Colton	3437 Luttrell Rd	yes		X
024	0592050004	Tam H. Pham & Thuy B. Vo	3433 Luttrell Rd	yes		X
025	0592050003	Margaret C. Scalia	3429 Luttrell Rd	yes		X
026	0592050002	Mark A. Mills & Deborah A. Mills	3427 Luttrell Rd	yes		X
027	0592050021	Glenn D. Crowell	3419 Luttrell Rd	yes		X
028	0592050022	Sivone Brahm & Monisara Brahm	3415 Luttrell Rd	yes		X
029	0592050023	Aws K Albayati	3411 Luttrell Rd	yes		X
030	0592050024	Homero Dominguez	3407 Luttrell Rd	yes		X
031	0592010002 0592016009	Virginia Electric and Power Company	Power Substation 3351 Gallows Road			X
032	0592210135	Thomas J. Lindblad	7917 Freehollow Dr			X
033	0592210134	Minh H. Vo	7919 Freehollow Dr			X
034	0592210132	Lan Nguen	7923 Freehollow Dr			X
035	0592210131	Mark R. Ulrich	7925 Freehollow Dr			X
036	0592210130	Yong C. Pak & In S. Pak	7927 Freehollow Dr			X
037	0592210129	Monica J. Lee & Jae Hoon Lee	7929 Freehollow Dr			X
038	0592210128	Tam Minh Pham & Thanh Lu Thuy	7931 Freehollow Dr			X
039	0592210125	Ricci L. Mulligan	7937 Freehollow Dr			X
040	0592010059	ING UOC Falls Church LP	General med/hi rise off			X
041	0592260004	Brandywine Acquisition Partners, LP	3130 Fairview Park Dr			X

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Table 1.6b: Right of Way Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Family Displacement	Personal Prop. Displacement	ROW (Fee)
042	0494010057	Mobil Fairfax, Inc.	3225 Gallows Rd			X
012	0594010009	Fairfax County Park Authority	Mill Creek Park Lee Hwy Pcl2			X
043	0494010072	3120 Fairview LLC	3112 Fairview Park Dr			X
047	0494010073A 0494010073	Fairview Property Investments LLC	Vacant land			X
048	0492010088A	Fairfax County Park Authority	Jefferson District Park			X
052	0492010048 0492010053	Fairfax Merrifield Associates W and M Properties Inc.	2743 Gallows Rd 2720 Pleasantdale Rd			X
063	0492010188 0492010189 0394010138	CPL ILIFF LLC	Nursing Homes			X
064	0394010139	Northern Virginia Regional Park Authority	Vacant land			X
065		Commonwealth of Virginia	60' Right of Way			X
103	0394060004	Virk Harminder	7800 Idylwood Rd			X
077	0394010173	Paul F. Moffett	2300 Division Avenue			X
078	0394010176	John L. Carroll & Gloria L. Carroll	7800 Oak St			X
	03946110013 02	Renaissance Condo				X
082	039248A	Tysons Executive Village Homeowners Assn, Inc.	Private Open Space			X
083	0392010047A	Annette M. Lerner et vir	General med/hi rise off			X
084	03920010013 A4	Hearthstone Multi-Asset Entity B LP C/O Hearthstone Inc.	Garden Apartments condominium			X
085	0392010013C	Campus Point Realty, Corporation II	Medium rise apartments			X

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Table 1.6b: Right of Way Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Family Displacement	Personal Prop. Displacement	ROW (Fee)
086	0392010045D	7799 Leesburg Pike LP C/O Lerner Co.	7799 Leesburg Pike			X
087	0392010045C	PVA IV LP C/O the Procaccianti Group	7801 Leesburg Pike			X
088	0392010062A	Teachers Rea IV LLC C/O Clarion Realty Services	2010 Corporate Ridge			X
089	0392010062B	Forest Village Corporate Ridge LLC C/O The Stephen A. Golbert Company	2000 Corporate Ridge			X
091	0392290001A 1	Tycon Tower I Investment Limited Partnership C/O QDC Property Management Inc.	8000 Towers Crescent Dr			X
101	0392010012	L R Kidwell LLC	1951 Kidwell Dr			X
092	0294010035A	Tysons Corner Property Holdings LLC	7966 Tysons Corner Center			X
096	029215A7	Gannett Co, Inc.	General med/hi rise off			X
097	029215A6	West Group Properties LLC	8000 Jones Branch Dr			X
098	0301320100	T and M Ventur II, LLC	7601 Lewinsville Rd			X
217	0294070005	Tysons Park Inc	Jones Branch			X
	02940700071 A	Westpark Portfolio	7923 Jones Branch			X
	029407C2	Westpark Portfolio	7925 Jones Branch			X

Attachment 1.6C – Easement Acquisition Schedule

Attachment 1.6C – Easement Acquisition Schedule

The following schedule contains the ROW information known at the Closing Date and is subject to change.

Table 1.6c: Easement Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Easements		
				Utility	Perm	Temp
	79202450002	Earl G Harris	7543 Axton St		X	
	79202450001	Pourrabi Mohammad	7545 Axton St		X	
	792010002	Commonwealth of Virginia			X	
207	70404590032	Joseph J Latella	5324 Ravensworth Rd		X	
208	70404590031	John G Gerndt	5326 Ravensworth Rd		X	
209	70404590030	Mark C Dolan	5328 Ravensworth Rd		X	
210	70404590029	Cuong Tran	5330 Ravensworth Rd		X	
211	70404590028	Norman J Dawson	5332 Ravensworth Rd		X	
212	70404590027	Ann Gacek	5334 Ravensworth Rd			
	70404590020	Tsanganelias Andreas	5348 Ravensworth Rd		X	
	70404590019	Farzad Faozia	5350 Ravensworth Rd		X	
001	0704100004 0704100005 0704100006	Shenandoah's Pride LLC	5301 Port Royal Rd 5325 Port Royal Rd 5201 Port Royal Rd		X	
002	0704100503 0704100503A	Elman Springfield Associates LP	5271 Port Royal Rd 5285 Port Royal Rd		X	
003	0704100002B 1	Merrifield Metro Center LLC	5265 Port Royal Rd	X	X	
004	0704100002B 2	Port Royal Road, General Partnership	5261 Port Royal Rd	X	X	
005	0704100002A	Dorado FS LLC	5255 Port Royal Rd	X	X	

Attachment to Exhibit N – Technical Requirements
Attachment 1.6C

Table 1.6c: Easement Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Easements		
				Utility	Perm	Temp
006	0704100001A	Ravensworth Properties, LLC	5201 Port Royal Rd	X	X	
007	0704010002	Fairfax County Park Authority	Wakefield Park 8100 Braddock Rd	X	X	X
008	070406B	Albert Small, Et ALs	Vacant Land		X	
213	70404590018	Hardve Singh	5352 Ravensworth Rd		X	
	704060012	Bruce M Mueller	7809 Bristow Dr		X	
	704060013	Nestor E Vargas	7807 Bristow Dr		X	
	704060014	Mayro Najara	7805 Bristow Dr		X	
009	0704010002A	Park Authority, Fairfax County	Fitzhugh Park 4966 American Dr		X	
014	0594050003	Akram Salih	4024 Hirst Dr	X		
015	0594050039	Seyed H Sharghazadi	4022 Hirst Dr	X		
016	0594050038	Anh N Huynh	4020 Hirst Dr	X		
017	0594050037	Ruth V and Werner O Winning	4018 Hirst Dr	X		
019	059418P 059418D	Lafayette Village Community Association C/O Armstrong Associates Inc.	Private Open Space		X	
020	059222A	Chaconas Estates, Homes Association C/O Robert Redman	Private Open Space	X		
021	059220A	Gallows Estates Community Association C/O S. Brockington	Private Open Space	X		
022	059217A	Raintree Homeowners Association, Inc.	Private Open Space		X	
031	0592010002 0592016009	Virginia Electric and Power Company	Power Substation 3351 Gallows Road	X	X	
032	0592210135	Thomas J. Lindblad	7917 Freehollow Dr	X	X	
033	0592210134	Minh H. Vo	7919 Freehollow Dr	X	X	
034	0592210132	Lan Nguen	7923 Freehollow Dr	X	X	
035	0592210131	Mark R. Ulrich	7925 Freehollow Dr	X		

Attachment to Exhibit N – Technical Requirements
Attachment 1.6C

Table 1.6c: Easement Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Easements		
				Utility	Perm	Temp
036	0592210130	Yong C. Pak & In S. Pak	7927 Freehollow Dr	X		
037	0592210129	Monica J. Lee & Jae Hoon Lee	7929 Freehollow Dr	X		
038	0592210128	Tam Minh Pham & Thanh Lu Thuy	7931 Freehollow Dr	X		
039	0592210125	Ricci L. Mulligan	7937 Freehollow Dr	X	X	
040	0592010059	ING UOC Falls Church LP	General med/hi rise off	X	X	X
041	0592260004	Brandywine Acquisition Partners, LP	3130 Fairview Park Dr	X	X	X
042	0494010057	Mobil Fairfax, Inc.	3225 Gallows Rd		X	X
012	0594010009	Fairfax County Park Authority	Mill Creek Park Lee Hwy Pcl2	X		
043	0494010072	3120 Fairview LLC	3112 Fairview Park Dr	X		X
044	0494130002	JCC 3110 Fairview Park LLC	3110 Fairview Park Dr	X	X	
045	494010071	Fairview Property Investments LLC	Vacant land		X	
046	049406010003	George P Leland	2912 Kings Chapel Rd	X	X	X
047	0494010073A 0494010073	Fairview Property Investments LLC	Vacant land	X	X	X
048	0492010088A	Fairfax County Park Authority	Jefferson District Park		X	X
049	0492010071B	Forty Oaks Hartland LLC	2735 Hartland Rd		X	
050	492160002	Fairfax County Park Authority	Residence		X	
051	492160003	Fairfax County Park Authority	Residence		X	
052	0492010048 0492010053	Fairfax Merrifield Associates W and M Properties Inc.	2743 Gallows Rd 2720 Pleasantdale Rd		X	
053	0492070053A	Marvin E & Clara Reeves	2620 Pioneer LA		X	
054	0492070054A	Ken C & Susan G York	2618 Pioneer LA		X	
055	49207055	Cheryl F Bright	2616 Pioneer LA		X	
056	492070056	Keith M McGahan	2614 Pioneer LA		X	

Attachment to Exhibit N – Technical Requirements
Attachment 1.6C

Table 1.6c: Easement Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Easements		
				Utility	Perm	Temp
057	492070057	Aphrodite & Jan E Luytjes	2612 Pioneer LA		X	
058	492030006 0492030007 0492030008	Stenwood Brookfield LLC	Vacant Land		X	
059	49201011	Stenwood Brookfield LLC	2601 Stenhouse Pl.		X	
060	492030010	Stenwood Brookfield LLC	Vacant Land		X	
061	492350008	Khai H Bui, Et Als	8000 Sandberg Ct		X	
062	492350007	John A Indellicate	8000 Sandberg Ct		X	
066		Northern Virginia Regional Park Authority	Trail Right of Way		X	X
105	039404B0014 B	Suriner Kallar	7919 North Park St.		X	
106	039404B0014 A	Sameer Kwatra	7921 North Park St.		X	
107	039404B0015	Ngoc Nguyen	7920 North Park St.		X	
067	039404B0008 039404B0009	Richard C. Goode	2414 Spring St		X	
068	039404B0007	Cathie G. Eitelberg & William C. McKaig	2412 Spring St		X	
069	039404B0006	Issmail Alchaleh & Mazen I. Alchaleh	2410 Spring St		X	
070	039404B0005	Name Withheld	2408 Spring St		X	
071	039404A0004	Martha J Tidwekk Trustee	2405 Spring St		X	
072	394160029	Manouchehr % Kathryn Pourhasemi	7808 Applegate Ct		X	
073	394160030	Justin s & Robert S Kirk	7806 Applegate Ct		X	
074	039416A	Shrevecrest Homeowners Association	Common Area		X	
		WMATA Agreement				
103	0394060004	Virk Harminder	7800 Idylwood Rd	X		X
100	39406007	Nanvy Pettiford	7809 Idylwood Rd		X	
104	0394010149	Spessard Family Trust	7836 Idylwood Rd	X		X
075	039404A0002	George L Andrus	2403 Spring St		X	
076	039404A0001	Christopher Maher	2401 Spring St.		X	
077	0394010173	Paul F. Moffett	2300 Division Avenue			X

Attachment to Exhibit N – Technical Requirements
Attachment 1.6C

Table 1.6c: Easement Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Easements		
				Utility	Perm	Temp
078	0394010176	John L. Carroll & Gloria L. Carroll	7800 Oak St			X
079	394010180	Dorothy Knott	2251 Morgan Ln		X	X
080	394010181	Guillermo S & Pauline Pinon	2237 Morgan Ln		X	
	394010171	Cathrina T. Espino	2301 Morgan Ln			X
081	039455A	Sandberg Park I Homeowners Association	Common Area		X	
082	039248A	Tysons Executive Village Homeowners Assn, Inc.	Private Open Space	X	X	
083	0392010047A	Annette M. Lerner et vir	General med/hi rise off	X	X	X
084	03920010013 A4	Hearthstone Multi-Asset Entity B LP C/O Hearthstone Inc.	Garden Apartments condominium		X	
085	0392010013C	Campus Point Realty, Corporation II	Medium rise apartments	X	X	
086	0392010045D	7799 Leesburg Pike LP C/O Lerner Co.	7799 Leesburg Pike	X		X
087	0392010045C	PVA IV LP C/O the Procaccianti Group	7801 Leesburg Pike		X	
101	0392010012	L R Kidwell LLC	1951 Kidwell Dr	X		X
088	0392010062A	Teachers Rea IV LLC C/O Clarion Realty Services	2010 Corporate Ridge		X	
089	0392010062B	Forest Village Corporate Ridge LLC C/O The Stephen A. Golbert Company	2000 Corporate Ridge		X	
090	392010067	Dolley Madison LLC	Apartments		X	
091	0392290001A 1	Tycon Tower I Investment Limited Partnership C/O QDC Property Management Inc.	8000 Towers Crescent Dr	X	X	
092	0294010035A	Tysons Corner Property Holdings LLC	7966 Tysons Corner Center	X		X
093	0294070006A	WRIT LP	7900 Westpark Dr		X	
094	0294070007C	White Paerl Enterprises LLC	7918 Jones Branch Dr		X	

**Attachment to Exhibit N – Technical Requirements
Attachment 1.6C**

Table 1.6c: Easement Acquisition Schedule						
Parcel	Tax Map	Current Owner	Parcel Address	Easements		
				Utility	Perm	Temp
096	029215A7	Gannett Co, Inc.	General med/hi rise off	X	X	X
097	029215A6	West Group Properties LLC	8000 Jones Branch Dr		X	
098	0301320100	T and M Ventur II, LLC	7601 Lewinsville Rd			X
102		Metropolitan Washington Airport Authority	Dulles Connector Road			X
108		Norfolk Southern Railroad	Section VIII		X	

Attachment 1.7 - Utility Relocation Schedule

Attachment 1.7 Utility Relocation Schedule

The following schedule contains the ROW information known at the Closing Date and is subject to change.

TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
2	Braddock Rd/SR 620	AT&T	Cell Tower	Remove
2	Braddock Rd/SR 620	Fairfax Water	30" Water Line	Combine with 20" to a 42" crossing
2	Braddock Rd/SR 620	Fairfax Water	20" Water Line	Combine with 30" to a 42" crossing
2	Braddock Rd/SR 620	Washington Gas	12" Dist Gas - Bridge Attachment	Relocate to new WB bridge
2	Braddock Rd/SR 620	Verizon Business	FO - Bridge Attachment	Move off existing bridge and drill new crossing
2	Braddock Rd/SR 620	CATV	FO - Bridge Attachment	Move off existing bridge and drill new crossing
2	Braddock Rd/SR 620	Dominion	UG Dist Duct	Move MH out of SWM-3 and MH out of shoulder
2	Braddock Rd/SR 620	Dominion	OH Dist Lines	Relocate poles away from curb
2	Braddock Rd/SR 620	CATV	OH Lines	Relocated with OH electric
2	STA 656	Phone	OH Lines	Adjust OH crossing
3	STA 662	Dominion	UG Dist Duct	No conflict expected
3	STA 664+50	Fairfax Sewer	Sanitary Sewer	Encase existing sewer
3	STA 695	Fairfax Sewer	8" Sanitary Sewer	Jack and bore new pipe
3	Little Rvr TnPk/SR 236	Phone	OH Lines	Adjust OH crossing
3	Little Rvr TnPk/SR 236	Washington Gas	12" Dist Gas - Bridge Attachment	Relocate to new bridge
3	Little Rvr TnPk/SR 236	CATV	FO - Bridge Attachment	Relocate to new bridge
3	Little Rvr TnPk/SR 236	Verizon Business	FO - Bridge Attachment	Relocate to new bridge
3	Little Rvr TnPk/SR 236	Dominion	OH Dist Lines	Relocate along Ramps LREN and LRNW, new mainline crossing
3	Little Rvr TnPk/SR 236	CATV	OH Lines	Relocated with OH electric
3	Little Rvr TnPk/SR 236	Fairfax Water	6" Water Line	Relocate in bridge
3	Little Rvr TnPk/SR 236	Fairfax Sewer	8" Sanitary Sewer	Jack and bore new pipe

Attachment to Exhibit N – Technical Requirements
Attachment 1.7

TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
3	STA 727	Washington Gas	24" Trans Gas	Extend existing casing
3	Little Rvr Tnpg/SR 236	Washington Gas	24" Trans Gas	New crossing due to ramp LRNW
3	Little Rvr Tnpg/SR 236	Dominion	Transmission	Grounding costs during construction
4	STA 765+75	Fairfax Water	12" Water Line	Jack and bore new pipe
4	Gallows Rd/SR 650	Fairfax Water	12" Water Line	Jack and bore new pipe
4	Gallows Rd to Lee Hwy	Fairfax Water	42" Water Line	Relocate to new easement
4	STA 797	Fairfax Sewer	10" Sanitary Sewer "	Jack and bore new pipe
4	Gallows Rd/SR 650	Washington Gas	6" Dist Gas	Relocate to new crossing
4	Gallows Rd/SR 650	CATV	FO - Bridge Attachment	Move off existing bridge and drill new crossing
4	Gallows Rd/SR 650	Verizon Business	FO - Bridge Attachment	Relocate to new bridge
4	Gallows Rd/SR 650	Dominion	Dist Duct - Bridge Attachment	Relocate to new bridge
4	STA 842+50	Fairfax Sewer	16" Sanitary Sewer	Jack and bore new pipe
5	Lee Hwy/SR 29	Fairfax Water	10" Water Line	Jack and bore new pipe
5	Lee Hwy/SR 29	Dominion	OH Dist Lines	Relocate poles away from bridge
5	Lee Hwy/SR 29	CATV	OH Lines	Relocate with OH electric
5	Lee Hwy/SR 29	AT&T (Long Distance)	FO - Bridge Attachment	Move off existing bridge and drill new crossing
5	Lee Hwy/SR 29	CATV	FO - Bridge Attachment	Move off existing bridge and drill new crossing
5	Lee Hwy/SR 29	Verizon Business	FO - Bridge Attachment	Move off existing bridge and drill new crossing
5	Lee Hwy/SR 29	Verizon [Verizon Bus, AT&T]	FO UG Duct	Drill new crossing
5	Lee Hwy/SR 29	Fiberlight [Espire, L(3), AT&T]	UG FO Duct	No conflict expected
5	STA 876	Phone	UG Duct	Drill new crossing
5	I-66	QGS	FO - Bridge Attachment	Move off existing bridge and drill new crossing
5	I-66	Dominion	UG Dist Duct	Bore new crossing to avoid ramp pier
5	I-66	Dominion	OH Dist Lines	Adjust poles for road

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TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
				widening
5	I-66	Dominion	Transmission	No conflict expected
5	I-66	AT&T	FO - Bridge Attachment	Relocate to new bridge
5	Idlywood Rd	CATV	FO - Bridge Attachment	Move off existing bridge and drill new crossing
5	Idlywood Rd	Dominion	OH Dist Lines	Adjust poles for road widening and temporary bridge
5	Idlywood Rd	CATV	OH Lines	Adjust with OH Electric
5	Idlywood Rd	AT&T Local	OH Lines	Adjust with OH Electric
5	I-66	QGS	FO - Bridge Attachment	Move to opposite side of bridge after construction
5	Gallows Rd/SR 650	QGS	UG FO Duct	No conflict expected with SW5
5	Gallows Rd/SR 650	CATV	UG Duct	No conflict expected with SW5
6	Oak St	Verizon	UG FO Duct	No conflict expected
6	STA 967+75	Fairfax Sewer	10" Sanitary Sewer	Jack and bore new pipe
6	STA 968 to Leesburg Pk/SR 7	Fairfax Water	42" Water Line	Relocate existing pipe
6	STA 971 to STA 978+50	Fairfax Sewer	8" Sanitary Sewer	Relocate existing pipe
6	Leesburg Pk/SR 7	Falls Church Water	12" Water Line	Relocate on bridge
6	Leesburg Pk/SR 7	Level (3)	UG FO Duct	Move to new bridge
6	Leesburg Pk/SR 7	Dominion	OH Dist Lines	Adjust poles for road widening
6	Leesburg Pk/SR 7	CATV	OH Lines	Adjust poles for road widening
6	Leesburg Pk/SR 7	AT&T	OH Lines	Adjust poles for road widening
6	Leesburg Pk/SR 7	Washington Gas	24"/16" Trans Gas	New crossing due to road widening
6	Leesburg Pk/SR 7	CATV	FO - Bridge Attachment	Move to new bridge
6	Leesburg Pk/SR 7	Verizon [Verizon Bus, AT&T]	FO - Bridge Attachment	Move to new bridge
6	STA 1004	Falls Church Water	24" Water Line	Jack and bore new pipe

Attachment to Exhibit N – Technical Requirements
Attachment 1.7

TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
6	Chainbridge Rd/SR 123	Fairfax Water	42" Water Line	Relocate existing pipe
7	Chainbridge Rd/SR 123	Level (3) [AT&T]	UG FO Duct	Drill new alignment to avoid new mainline bridge abutment
7	Chainbridge Rd/SR 123	Verizon [AT&T, Verizon Bus?]	UG FO Duct (2)	No conflict expected with mainline bridges
7	Chainbridge Rd/SR 123	Washington Gas	12" Dist Gas	Under new ramp CES (existing pavement)
7	Chainbridge Rd/SR 123	QGS	UG FO Duct (2)	Drill new alignment to avoid new mainline bridge abutment
7	Chainbridge Rd/SR 123	Dominion	OH Dist Lines	New alignment for road crossing
7	Chainbridge Rd/SR 123	AT&T (Local)	UG FO Duct	New crossing due to road widening, also adjust on new elec poles
7	Chainbridge Rd/SR 123	Dominion	UG Dist Lines	Relocate Duct for West Park widening
7	Chainbridge Rd/SR 123	Washington Gas	6" Dist Gas	Relocate for West Park widening
7	Chainbridge Rd/SR 123	Verizon [MCI, MFS]	UG FO Duct (2)	No conflict expected
7	Chainbridge Rd/SR 123	Dominion	OH Dist Lines	Adjust poles for road widening
7	DAAR	Fairfax Sewer	8" Sanitary Sewer	Relocate existing pipe
7	Lewinsville Rd	Dominion	OH Dist Lines	Adjust poles for road widening and bridge
7	Lewinsville Rd	Fibergate (Arbros)	UG FO Duct	New crossing due to new bridge
7	Lewinsville Rd	CATV	FO - Bridge Attachment	Move to new bridge
7	Lewinsville Rd	Verizon	FO - Bridge Attachment	Move to new bridge
	Various	Fairfax Water	Adjust Fire Hydrants	
	Various	Falls Church Water	Adjust Fire Hydrants	
	Various	Fairfax Sewer	Adjust Sewer Manholes	
TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation

Attachment to Exhibit N – Technical Requirements
Attachment 1.7

TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
2	Braddock Rd/SR 620	AT&T	Cell Tower	Remove
2	Braddock Rd/SR 620	Fairfax Water	30 water line "	Combine with 20 to a 42" crossing "
2	Braddock Rd/SR 620	Fairfax Water	20 water line "	Combine with 30 to a 42" crossing "
2	Braddock Rd/SR 620	Washington Gas	12 Dist Gas - bridge attachment "	Relocate to new WB bridge
2	Braddock Rd/SR 620	Verizon Business	FO - Bridge attachment	Move off existing bridge and drill new crossing
2	Braddock Rd/SR 620	CATV	FO - Bridge attachment	Move off existing bridge and drill new crossing
2	Braddock Rd/SR 620	Dominion	UG Dist duct	Move mh out of SWM-3 and mh out of shoulder
2	Braddock Rd/SR 620	Dominion	OH Dist Lines	Relocate poles away from curb;
2	Braddock Rd/SR 620	CATV	OH Lines	Relocated with OH electric
2	STA 656	Phone	OH Lines	Adjust OH crossing
3	STA 662	Dominion	UG Dist duct	no conflict expected
3	STA 664+50	Fairfax Sewer	Sanitary Sewer	Encase existing sewer
3	STA 695	Fairfax Sewer	8 Sanitary Sewer "	Jack and bore new pipe
3	Little Rvr Tnpk/SR 236	Phone	OH Lines	Adjust OH crossing
3	Little Rvr Tnpk/SR 236	Washington Gas	12 Dist Gas - bridge attachment "	Relocate to new bridge
3	Little Rvr Tnpk/SR 236	CATV	FO - Bridge attachment	Relocate to new bridge
3	Little Rvr Tnpk/SR 236	Verizon Business	FO - Bridge attachment	Relocate to new bridge
3	Little Rvr Tnpk/SR 236	Dominion	OH Dist Lines	Relocate along Ramps LREN and LRNW, new mainline crossing
3	Little Rvr Tnpk/SR 236	CATV	OH Lines	Relocated with OH electric
3	Little Rvr Tnpk/SR 236	Fairfax Water	6 water line "	Relocate in bridge
3	Little Rvr Tnpk/SR 236	Fairfax Sewer	8 sanitary sewer "	Jack and bore new pipe
3	STA 727	Washington Gas	24 Trans Gas "	Extend existing casing
3	Little Rvr Tnpk/SR 236	Washington Gas	24 Trans Gas "	New crossing due to ramp LRNW
3	Little Rvr Tnpk/SR 236	Dominion	Transmission	Grounding costs during

Attachment to Exhibit N – Technical Requirements
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TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
				construction
4	STA 765+75	Fairfax Water	12 water line "	Jack and bore new pipe
4	Gallows Rd/SR 650	Fairfax Water	12 water line "	Jack and bore new pipe
4	Gallows Rd to Lee Hwy	Fairfax Water	42 water line "	Relocate to new easement
4	STA 797	Fairfax Sewer	10 sanitary sewer "	Jack and bore new pipe
4	Gallows Rd/SR 650	Washington Gas	6 Dist Gas "	Relocate to new crossing
4	Gallows Rd/SR 650	CATV	FO - Bridge attachment	Move off existing bridge and drill new crossing
4	Gallows Rd/SR 650	Verizon Business	FO - Bridge attachment	Relocate to new bridge
4	Gallows Rd/SR 650	Dominion	Dist duct - Bridge attachment	Relocate to new bridge
4	STA 842+50	Fairfax Sewer	16 sanitary sewer "	Jack and bore new pipe
5	Lee Hwy/SR 29	Fairfax Water	10 water line "	Jack and bore new pipe
5	Lee Hwy/SR 29	Dominion	OH Dist Lines	Relocate poles away from bridge
5	Lee Hwy/SR 29	CATV	OH Lines	Relocate with OH electric
5	Lee Hwy/SR 29	AT&T (Long Distance)	FO - Bridge attachment	Move off existing bridge and drill new crossing
5	Lee Hwy/SR 29	CATV	FO - Bridge attachment	Move off existing bridge and drill new crossing
5	Lee Hwy/SR 29	Verizon Business	FO - bridge attachment	Move off existing bridge and drill new crossing
5	Lee Hwy/SR 29	Verizon [Verizon Bus, AT&T]	FO UG duct	Drill new crossing
5	Lee Hwy/SR 29	Fiberlight [Espire, L(3), AT&T]	UG FO duct	no conflict expected
5	STA 876	Phone	UG duct	Drill new crossing
5	I-66	QGS	FO - bridge attachment	Move off existing bridge and drill new crossing
5	I-66	Dominion	UG Dist duct	Bore new crossing to avoid ramp pier
5	I-66	Dominion	OH Dist Lines	Adjust poles for road widening
5	I-66	Dominion	Transmission	no conflict expected
5	I-66	AT&T	FO - bridge attachment	Relocate to new bridge

Attachment to Exhibit N – Technical Requirements
Attachment 1.7

TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
5	Idlywood Rd	CATV	FO - bridge attachment	Move off existing bridge and drill new crossing
5	Idlywood Rd	Dominion	OH Dist Lines	Adjust poles for road widening and temporary bridge
5	Idlywood Rd	CATV	OH Lines	Adjust with OH Electric
5	Idlywood Rd	AT&T Local	OH Lines	Adjust with OH Electric
5	I-66	QGS	FO - bridge attachment	Move to opposite side of bridge after construction
5	Gallows Rd/SR 650	QGS	UG FO duct	no conflict expected with SW5
5	Gallows Rd/SR 650	CATV	UG duct	no conflict expected with SW5
6	Oak St	Verizon	UG FO duct	no conflict expected
6	STA 967+75	Fairfax Sewer	10 sanitary sewer "	Jack and bore new pipe
6	STA 968 to Leesburg Pk/SR 7	Fairfax Water	42 water line "	Relocate existing pipe
6	STA 971 to STA 978+50	Fairfax Sewer	8 sanitary sewer "	Relocate existing pipe
6	Leesburg Pk/SR 7	Falls Church Water	12 water line "	Relocate on bridge
6	Leesburg Pk/SR 7	Level (3)	UG FO duct	Move to new bridge
6	Leesburg Pk/SR 7	Dominion	OH Dist Lines	Adjust poles for road widening
6	Leesburg Pk/SR 7	CATV	OH Lines	Adjust poles for road widening
6	Leesburg Pk/SR 7	AT&T	OH Lines	Adjust poles for road widening
6	Leesburg Pk/SR 7	Washington Gas	24/16" Trans Gas "	New crossing due to road widening
6	Leesburg Pk/SR 7	CATV	FO - bridge attachment	Move to new bridge
6	Leesburg Pk/SR 7	Verizon [Verizon Bus, AT&T]	FO - bridge attachment	Move to new bridge
6	STA 1004	Falls Church Water	24 water line "	Jack and bore new pipe
6	Chainbridge Rd/SR 123	Fairfax Water	42 water line "	Relocate existing pipe
7	Chainbridge Rd/SR 123	Level (3) [AT&T]	UG FO duct	drill new alignment to avoid new mainline bridge abutment

Attachment to Exhibit N – Technical Requirements
Attachment 1.7

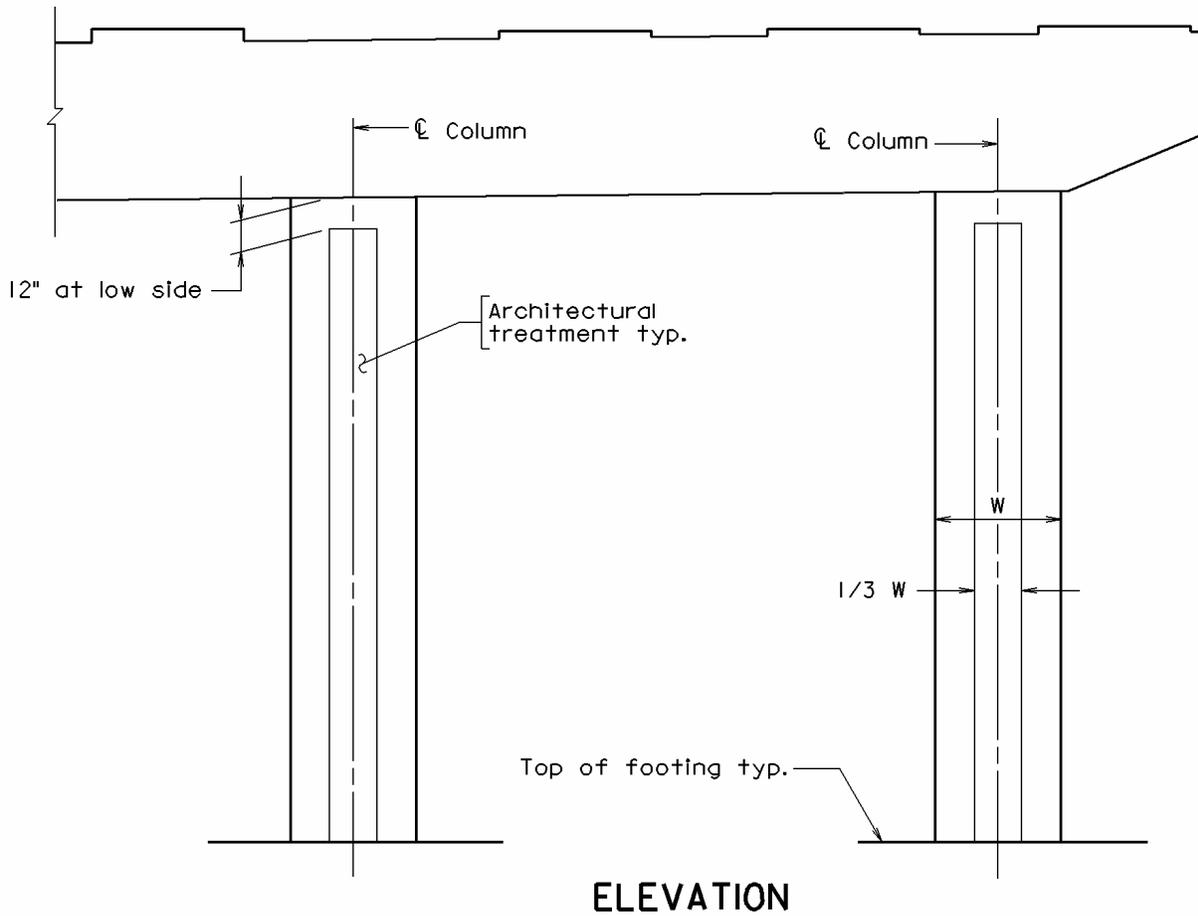
TABLE 1.7 UTILITY RELOCATION SCHEDULE				
Design Section	Location	Utility	Description	Relocation
7	Chainbridge Rd/SR 123	Verizon [AT&T, Verizon Bus?]	UG FO duct (2)	no conflict expected with mainline bridges;
7	Chainbridge Rd/SR 123	Washington Gas	12 Dist Gas "	Under new ramp CES (existing pavement)
7	Chainbridge Rd/SR 123	QGS	UG FO duct (2)	drill new alignment to avoid new mainline bridge abutment
7	Chainbridge Rd/SR 123	Dominion	OH Dist Lines	new alignment for road crossing
7	Chainbridge Rd/SR 123	AT&T (Local)	UG FO duct	New crossing due to road widening, also adjust on new elec poles
7	Chainbridge Rd/SR 123	Dominion	UG Dist Lines	Relocate duct for westpark widening
7	Chainbridge Rd/SR 123	Washington Gas	6 Dist Gas "	Relocate for westpark widening
7	Chainbridge Rd/SR 123	Verizon [MCI, MFS]	UG FO duct (2)	no conflict expected
7	Chainbridge Rd/SR 123	Dominion	OH Dist Lines	Adjust poles for road widening
7	DAAR	Fairfax Sewer	8 sanitary sewer "	Relocate existing pipe
7	Lewinsville Rd	Dominion	OH Dist Lines	Adjust poles for road widening and bridge
7	Lewinsville Rd	Fibergate (Arbros)	UG FO duct	New crossing due to new bridge
7	Lewinsville Rd	CATV	FO - bridge attachment	Move to new bridge
7	Lewinsville Rd	Verizon	FO - bridge attachment	Move to new bridge
	Various	Fairfax Water	Adjust fire hydrants	
	Various	Falls Church Water	Adjust fire hydrants	
	Various	Fairfax Sewer	Adjust sewer manholes	

Attachment 1.8 - Rustication Details

Attachment 1.8: Rustication Details

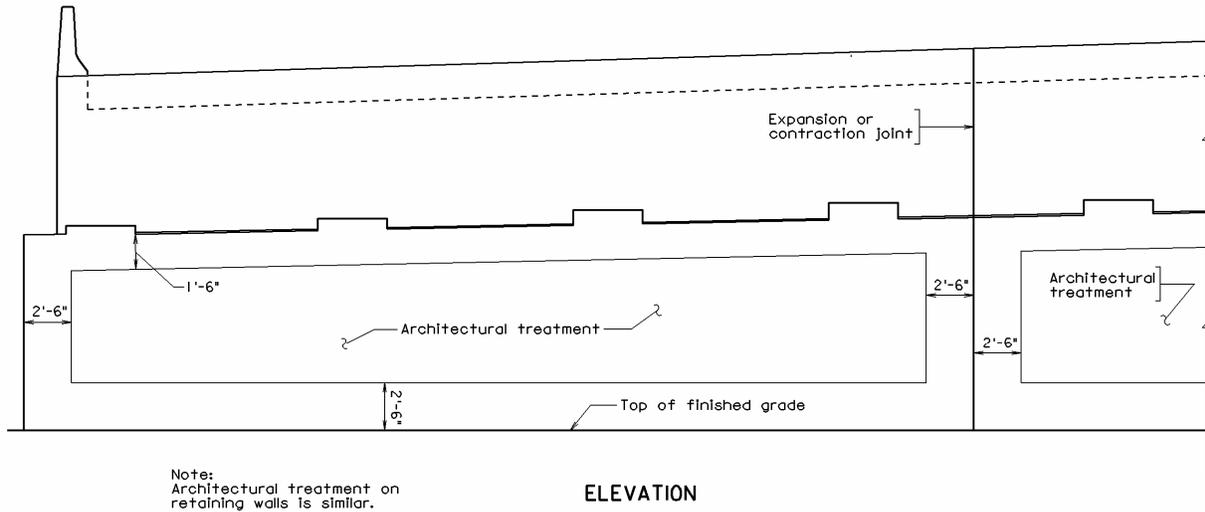
1 Architectural Treatment on Pier Columns

1.1 Multi Column Pier with Square Columns

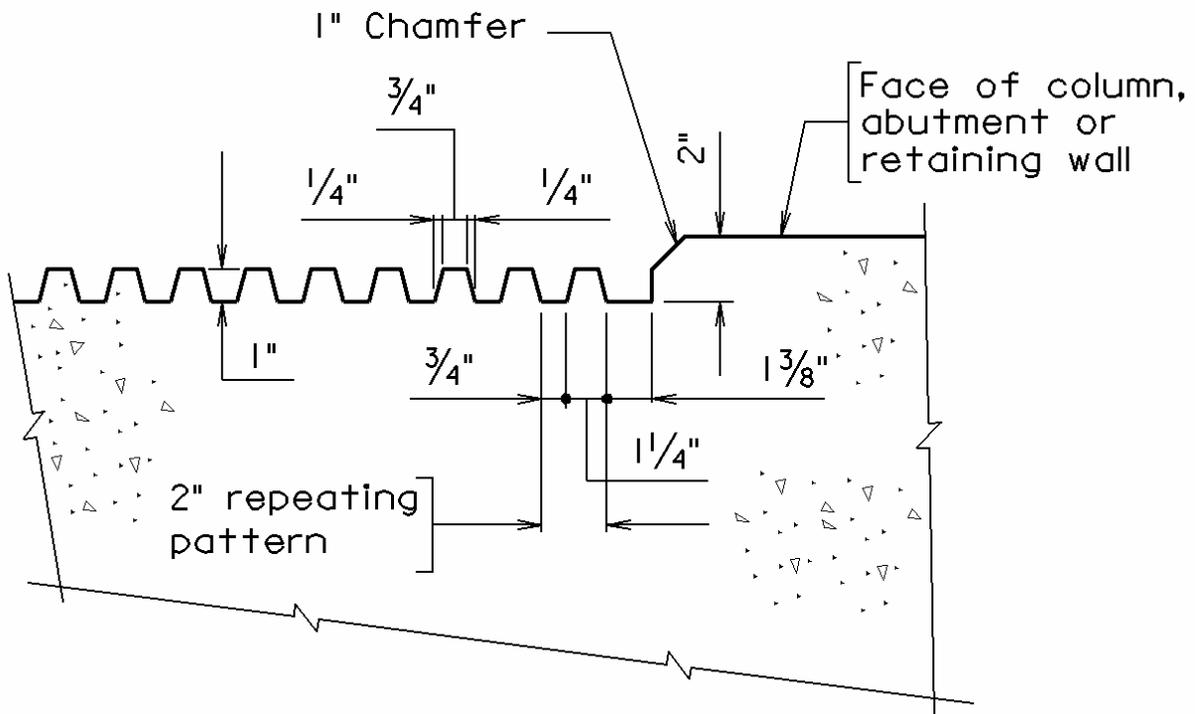


2 Architectural Treatment on Abutments

2.1 Treatment on Abutments



2.2 Detail of Architectural Treatment



Attachment 3.1A: Bike and Pedestrian Facility Improvements

**Attachment to Exhibit N – Technical Requirements
Attachment 3.1A**

**Existing, Planned, and Proposed Bike-Pedestrian Facilities Crossing I-495 as part of
Hot Lanes Project**

Updated December
12, 2007

Section	Description	Existing Conditions	Fairfax County Trails Plan	Proposed (Hot Lanes Project)	FCDOT Staff Recommendation	Comments
1	Heming Avenue (Route 2652)	N: 10 ft Sidewalk S: 6 ft Sidewalk	N: Major Regional Shared Use Path S: Minor Paved Shared Use Path	Replacement/widening of the bridge structure is not anticipated.	Maintain Existing Cross Section	While not identified on Trails Plan, on-road bike amenities will enhance neighborhood and regional connectivity improving access to Accotink Park and CCT. Heming Avenue is also identified in VDOT's "Northern Virginia Regional Bikeway and Trail Network Study" as a regional bike route.
2	Braddock Road (Route 620)	N: Sidewalk S: Sidewalk	N: Major Regional Shared Use Path On-road bike lanes	N: Widen sidewalk to 14 ft shared use path S: Remove sidewalk	North Side: 10 ft. wide sidewalk Both Sides: 5 ft. wide striped On-Road Bike Lanes	Improvements extend to project limits. Striped bike lanes are preferred due to speed and volume. Provides access to Wakefield Park.
3a	Wakefield Park (South of Route 236)	Shared Use (bike/ped)	N/A	Extend structure with existing width	Concur with recommendation	Currently the end of the ramp landing "touchdown" on the west side is a gravel surface. Pave as necessary to completion.
3b	Little River Turnpike (Route 236)	Safety walks on both N and S sides	N: Major Paved Shared Use Path S: Major Paved Shared Use Path On Road Bike Lanes	N: Widen safety walk to 14 ft shared use path S: Widen safety walk to 5 ft sidewalk	North Side: 5ft. wide sidewalk; however if right of way exists with the design exception then provide a 10 ft. wide sidewalk. South Side: 10 ft. wide sidewalk Both Sides: 5 ft. wide striped On-Road Bike Lanes	Staff will accept major shared use paths in lieu of on-road bike lanes. Project limits to project limits. Project must address presence of Cross County Trail. Project should examine construction of connecting trail to CCT. Improvements extend to project limits. There maybe a cross section issue in the northwest quadrant. (Merge Problem).
4a	Gallows Rd (Route 650)	N: Sidewalk S: Sidewalk	N: Major Shared Use Path S: Major Shared Use Path On-Road Bike Lanes	N: Widen sidewalk to 5 ft S: Widen to 14 ft Shared Use Path	North Side: 5 ft. wide sidewalk South Side: 10 ft. wide sidewalk Both Sides: 5 ft. wide striped On Road Bike Lanes	Gallows Road functions as the "bicycle beltway" & high priority corridor. Bike lanes should be delineated with pavement markings. Trail should be extended to Mobil Oil property
4b	Arlington Blvd (US Route 50)	None	N: Major Paved Shared Use Path	None	None	None
Section	Description	Existing Conditions	Fairfax County Trails Plan	Proposed (Hot Lanes	FCDOT Staff	Comments

**Attachment to Exhibit N – Technical Requirements
Attachment 3.1A**

				Project)	Recommendation	
5a	Lee Hwy (Route 29)	N: Sidewalk S: Sidewalk	N: Major Paved Shared Use Path S: Major Paved Shared Use Path	Match VDOT 29/Gallows Project 0029-029-119, C501 North Side: 6' wide sidewalk. South Side: 5' wide sidewalk Both Sides: Mixed use 14' wide right curb lanes	Match VDOT 29/Gallows Project 0029-029-119, C501 North Side: 6 ft. wide sidewalk. South Side: 5 ft. wide sidewalk Both Sides: Mixed use 14 ft. wide right curb lanes	NOTE: Hot Lanes Project has modified recommendation; will match project
5b	W&OD Trail @ I-495	Shared use path	Major Paved Shared Use Path	Replace Structure. Meet NVRPA design criteria for 16 Ft shared use path	N/A	Project must coordinate with NVRPA
5d	Idylwood Rd (Route 695)	N: Sidewalk S: Safety walk	N: Major Paved Shared Use Path S: major Paved Shared Use Path	N: Maintain sidewalk 5 ft. S: Widen safety walk to 5 ft. sidewalk	Both Sides: 5 ft. wide sidewalk	Also provide grading and right of way for sidewalks throughout the project limits.
6a	Oak St (Route 769)	N: Sidewalk S: Safety walk	S: Minor Paved Shared Use Path	N: Remove sidewalk S: Widen safety walk to 5 ft. sidewalk	Both Sides: 5 ft. wide striped On-Road Bike Lanes. South Side: 5 ft. wide sidewalk	While not identified on Trails Plan, the addition of bike lanes on Oak St. will serve as alternative non-motorized route in lieu of Idylwood Rd, Route 123 and Route 7.
6b	Leesburg Pike (Route 7)	N: Safety walk S: Safety walk	N: Major Paved Shared Use Path S: Major Paved Shared Use Path	N: Widen safety walk to 5 ft sidewalk S: Widen safety walk to 14 ft shared use path	Both Sides: 10 ft. wide sidewalk	Further study required to evaluate ramp conflicts and path alignment. New outer loop exit ramp appears to conflict with Kidwell Drive.
6c	Westpark Bridge (B649)			Both Sides: 5' wide sidewalk Both Sides: 5' wide striped On-Road Bike Lanes	Both Sides: 5 ft. wide sidewalk Both Sides: 5 ft. wide striped On-Road Bike Lanes	
7a	Chain Bridge Road (Route 123)	None	N: Major Paved Shared Use Path SW: Major Paved Shared Use Path SE: None On-Road Bike Lanes	N: Provide space for future 14' wide Shared Use Path SW: Provide space for a 5 ft sidewalk SE: None	Both Sides: 10 ft. wide sidewalks. Both Sides: 5 ft. wide striped on-road bike lanes.	Route 123 presents many issues for bicyclists. In lieu of trails plan request on route 123 suggest examining alternative routes (e.g. Jones Branch Dr, Lewinsville Rd. and Oak St.) Bridge length should allow for any future widening as shown in the Ffx Co. Comp. Plan
Section	Description	Existing Conditions	Fairfax County Trails Plan	Proposed (Hot Lanes	FCDOT Staff	Comments

**Attachment to Exhibit N – Technical Requirements
Attachment 3.1A**

				Project)	Recommendation	
	Jones Branch Dr (Phase I)	None	Not in Comp Plan	N: 5 ft. Sidewalk to tie to existing trail only S: (future phase)	N:10 ft. Sidewalk to tie to existing trail only S: (future phase)	Design Phase I for the ultimate cross section to accommodate 10 ft. wide sidewalks on both sides and 5 ft. wide striped On-Road Bike Lanes both sides. Phase 1 calls for a 10 ft. wide sidewalk on the north side from existing Jones Branch Drive to connect to the existing trail located in the North East Quadrant of the intersection of Jones Branch Drive and the Jones Branch Drive Connector.
7b	Jones Branch Dr (Phase II)	None	Not in Comp Plan	N: 5 ft Sidewalk S: 5 ft Sidewalk	N: 10 ft Sidewalk S: 10 ft Sidewalk Both Sides: 5 ft wide striped on-road bike lanes.	Phase II will be constructed with the ultimate design of Jones Branch Drive tying to Scott Street on the East side of the Beltway. These pedestrian facilities will provide access to the future metro rail on Route 123.
7c	Lewinsville Rd (Route 694)	N: Sidewalk S: Safety walk	N: Major Paved Shared Use Path S: Major Paved Shared Use Path	N: 5 ft. wide sidewalk S: Widen safety walk to 5 ft sidewalk	Both Sides: 5 ft. wide sidewalks. Both Sides: 5 ft. wide striped on-road bike lanes.	Although, not identified on Trails Plan, the addition bike amenities will provide bicycle connectivity for the Tyson's-McLean-Arlington corridor. Grading and right of way need to be provided throughout the project limits.

- NOTES:
1. An additional 0.5 ft should be added to all the sidewalk widths to accommodate curb per the standard.
 2. The 5 ft on-road bike lanes includes 2 ft of the gutter pan and 3 ft of pavement. During the design process a determination will be made if on-road bikes lanes, or wide curb lanes are appropriate.
 3. FCDOT Staff Recommendation applies to the bridge crossings of the Capital Beltway. Limits on the approach roadways shall be defined as design develops.
 4. VDOT concurs with the FCDOT Staff Recommendation.

Attachment 3.1B: Springfield Interchange Deferred Items

Attachment to Exhibit N – Technical Requirements
Attachment 3.1B

April 27, 2007

Memorandum

To: Mr. Roger Boothe

From: Mr. Harinderbir S. Warraich

Subject: Springfield Interchange Improvement Project
Items Deferred to Phase VIII

Project No. 0095-029-F20, C505, B609, B611, B612, B614, B615, B616,
B617, B618, B619, B621, B622, B625, B626, B627, D681

As we approach the final completion of Phase VI VII on the Springfield Interchange Improvement Project, the Project would like to take this opportunity to inform you of those issues deferred to future Phase VIII. We are taking this action in an effort to capture all issues moved, for numerous reasons to the future phase. It is the Project's understanding that all of the below described issues will be adequately addressed in the Phase VIII plan set to ensure their completion. The issues are as follows:

- **HOV** – A plan error resulted in a grade differential between the new HOV and existing I-395 NB at the northern end of the project. Currently, temporary concrete barrier service protects traffic from this grade change. The temporary concrete barrier service runs from HOV station 148+85 +/- RT (tie-in to permanent MB wall) to station 153+50 +/- RT (northern project limit). Additionally, the planned guardrail treatment between HOV and I-395 NB from approximate station 150+00 to 151+80 is not installed and must be included into the Phase VIII plans once the grade differential is resolved.
- **Bridge Demolition** – Existing Bridge 2030 (Old Tyson's Loop Ramp) was inadvertently left out of the final contract. Demolition of this bridge must therefore be added into Phase VIII scope.
- **Fire Hydrant 56** – Hydrant 56 and its associated waterline were not installed in this phase due to obstructions encountered in the jacked pipe operation as well as the unaccounted for earthwork necessary to install. It was agreed to relocate the proposed 400mm Jacked Steel Encasement Pipe to a location free of underground obstructions as well as include the associated waterline and hydrant in Phase VIII scope.
- **Fire Hydrant 29 (Installed in Phase IV)** – Hydrant 29 (Ramp SP-E, Station 21+20 Rt.) was previously installed under Phase IV. At that time, Soundwall #2 was incomplete and therefore presented no access issues. However, as part of the Phase VI VII contract the contractor is to complete Soundwall #2 which will block access to this hydrant given

Attachment to Exhibit N – Technical Requirements

Attachment 3.1B

its position behind the Soundwall. An extension of this hydrant will have to be included in Phase VIII scope to resolve this access issue.

- **Pavement Demolition / Obscuring** – Several roadways outside new construction in Phase VI VII are slated to be demolished or obscured. Please be advised that the Project has allowed the contractor to demolish these roadways in-place (i.e. disturb and break pavement into acceptable sizes to affect drainage, cover with soil and seed). This procedure primarily applies to the abandoned old I-395 NB, old HOV, as well as the old Tysons Loop Ramp (from I-395 NB to the Inner Loop).

- **Stockpiles of Excess Material** – Please be advised that the Project has allowed the permanent burial of excess material in several locations through-out the Phase VI VII project. These locations include the north slope of Ramp W-N, beneath and adjacent to existing bridge B613; area beneath bridge B609 at southern abutment (abutment A) between I-395 NB and HOV; triangle area bound by I-395 NB, Ramp SP-E and the Beltway's Outer Loop (beneath and adjacent to bridge B612); north slope on I-95 NB from bridge B609 abutment B to end; area bound by I-395 SB, Ramp E-SP and Ramp N-SP. While every attempt was made by the Project to ensure these permanent stockpiles do not conflict with future Phase VIII construction, we feel it prudent to accurately depict these areas in the plan set to avoid any confusion.

- **Allowable Embankment** – Please be advised that the Project has allowed, per Specification the placement of rubble (concrete pieces, rock, etc.) within the majority of Phase VI VII proposed embankments. It has been the Project's experience that this allowance has resulted in some difficulty with subsequent drilling operations. It would be advantageous to address this possible eventuality within the contract language.

- **Tie-In Grades** – The Project wishes to advise you of previous problems with incorrect existing tie-in grades. The Project would recommend a field survey of all proposed tie-in locations for Phase VIII to ascertain and finalize all tie-in elevations and alignments.

- **Inner Loop** – The Project wishes to advise you to review the edge treatments along the Inner Loop between Phase IV and Phase V (I-495 WB station 332+00 to 340+00+/-) given the final plans (Phase VI VII) do not adequately address this condition. The Project is currently negotiating with the Phase VI VII contractor to install new guardrail (and remove the temporary barrier service), along the south face. However, there exists the possibility that these negotiations will not resolve the issue resulting in considerable temporary concrete barrier along the south edge which must be addressed in Phase VIII.

- **Temporary Concrete Barrier "Left-In-Place"** – Please be advised that previous Phase plans dictate the placement of temporary concrete barriers to be "left-in-place". The locations include:

Attachment to Exhibit N – Technical Requirements

Attachment 3.1B

- Outer Loop @ Bridge B613
 - ⌚ Future Ramp HW-N
 - ⌚ Future Ramp HOV-E
 - Ramp SP-NE
 - ⌚ Future Ramp P-W
 - ⌚ SP-NE Detour B
 - HOV
 - ⌚ Future Ramp HE-N
 - ⌚ Future Ramp HS-W
- I-95 NB
 - ⌚ North of Parkway (remaining from Phase II III)

• Deleted Slope Protection

- Slope Protection @ B616, Abutment A was deleted. Project review indicated the slope protection was not needed due to the MSE wall configuration at this location.

• Adjusted Items

- Slope Protection @ B614/B615, Abutment A was installed using scaled dimensions and elevations due to insufficient information on plan set.
- Waterline Vault @ SW corner of B614, Abutment A shifted to accommodate slope [See revised waterline sheet 50(14)].

Cc: Mike Rosenfeld, P.E.

John Lynch
Tarsem Lal (FHWA)
Peter Bonaccorsi (HNTB)
B. A. Thrasher, P.E.
Theresa DeFore
Larry O Cloyed, PMP
H. S. Warraich
Graham Myers
Leo J. Hodge
Andy Zickler
Dave Thoma
Sam Salimi
Blair Titcomb
Project File 6.1.1.1.2

Attachment 3.5: Interchange Justification Report

See attached CD

Beltway Interchange Justification Report Recommendations



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219-2000

David S. Ekern, P.E.
COMMISSIONER

MEMORANDUM

To: Roberto Fonseca, P.E.
Virginia Division Administrator
Federal Highway Administration

Attn: Tarsem Lal, P.E.
Area Engineer
Federal Highway Administration

From: Malcolm T. Kerley, P.E. 
Chief Engineer
Virginia Department of Transportation

Date: December 19, 2007

Ref: Capital Beltway HOT Lanes Project
Project: 0495-029-138, P101 UPC #68805
Federal Project Number: NH-495-5 (084)

Subject: Beltway Interchange Justification Report Recommendation

The Final Beltway Interchange Justification Report (IJR) was initially submitted on November 13, 2007, by Fluor -Lane, LLC (FL). One addendum to the IJR was submitted on November 21, 2007. After review of these documents by Virginia Department of Transportation (VDOT) staff, I am recommending conditional approval of the Beltway IJR contingent on incorporation and/or addressing the items listed below by the HOT Lanes project:

1. The addendum "Summary of Capital Beltway HOT Interchange Selection Process" should provide both quantitative and qualitative material to justify the HOT Lanes access points at Tyson's Corner, specifically Jones Branch Drive. Additional materials and information necessary to substantiate the justifications shall be fully coordinated with VDOT and the Federal Highway Administration (FHWA) and be part of a final submittal of the IJR reports for approval.

Attachment to Exhibit N – Technical Requirements

Attachment 3.5

Roberto Fonseca, P.E.
Virginia Division Administrator
Federal Highway Administration
Page 2
December 19, 2007

2. The VISSIM traffic operations model is to be re-run by the HOT Lanes Project team. Preliminary indications are that the next iteration of work, even with minor modifications that need to be made in terms of some input data, should not invalidate previous work already done and concurred in by those participating in project reviews. If this turns out to not be the case, then a reconciliation of the results of model must be achieved by the project team and approval of this report is subject to achieving that goal.
3. In concert with number two above, the auxiliary lanes proposed in the Final Environmental Impact Statement (FEIS) that mitigate degradation of operations throughout the Beltway, as identified in the IJR, shall be thoroughly analyzed from a traffic operations perspective to determine if acceptable levels of service and/or congestion mitigation would be provided by these particular features. The approach taken for this analysis should be consistent with that approved for the VISSIM modeling and should be reflective of or consistent with that used by the concessionaire in the project revenue forecasting models.
4. In areas of degradation identified in the IJR affected by interchange ramp operations, improvements identified in the FEIS should be further developed and evaluated along with other potential mitigation measures.
5. Any changes in the I-66 / I-495 interchange configuration shall require coordination and modifications of this Beltway IJR, and vice versa. Additional re-synthesizing of both of these efforts must be made complete.
6. Design exceptions have been noted in the IJR. Some of these have been processed in preliminary form and reviewed by the VDOT Central office staff and the Federal Highway Administration (FHWA). Final approval of the IJR is contingent upon the completion of the review of all of the design exceptions and their approval by VDOT and the FHWA.
7. As part of the continued development of this project, final design and details of signing and pavement markings will be produced in accordance with the latest versions of the MUTCD and VDOT and FHWA guidance. This effort will be subject to VDOT and FHWA approvals in accordance with our usual procedures and practice.

Attachment to Exhibit N – Technical Requirements
Attachment 3.5

Roberto Fonseca, P.E.
Virginia Division Administrator
Federal Highway Administration
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Upon your review and conditional approval of this document, please forward it to the FHWA Headquarters for their review and action. Your earliest attention to this matter is appreciated.

Attachments: IJR Report and Comment Resolution Sheets (3 copies)
IJR Addendum and Comment Resolution Sheets (3copies)
Supplemental Figure 8B (3 copies)
Report Figure 4 (3 copies)
Report Figure 15G (3 copies)
CD (w/all documents), (2 copies)

cc: David S. Ekern, P.E., Commissioner, VDOT
Mohammad Mirshahi, P.E., VDOT Central
Tom Pelnik, P.E., VDOT Central
Morteza Salehi, VDOT District
Ronaldo Nicholson, P.E., VDOT Project Office
Mitch Lester, Fluor
Tony Adams, Transurban

Attachment 3.6: I-495 Widening and Hot Lanes Pavement Notes

**Attachment to Exhibit N – Technical Requirements
Attachment 3.6**

I-495 WIDENING AND HOT LANES 10-1-07 (Rev. 1)

PAVEMENT NOTES

A. Pavement Sections

The required pavement sections are presented in Table 1.

Table 1. Required Pavement Sections

Roadway	Thickness in inches						Notes
	SM-12.5E(M)	SM 9.5D	IM-19.0D	BM-25.0A	CTA 4%	21B Agg.	
I-495 Widening High Side	2.0		2.0	14.0	6.0		2, 4
I-495 Widening Low Side	2.0		2.0	14.0		9.0	1, 2, 3
I-495 Existing Shoulders							5
Hot Lanes	2.0		2.0	6.0	8.0	8.0	1
Hot Lanes Shoulders	2.0		2.0			22.0	
Ramps and Loops	2.0		2.0	10.0		10.0	1, 2, 3
Route 620 High Side		1.5	2.0**	11.0	8.0		6
Rtes. 650, 236, 29, 7 High Side		1.5	2.0**	9.0	8.0		6
Route 620 Low Side		1.5	2.0**	11.0		10.0	1, 6
Rtes. 650, 236, 29, 7 Low Side		1.5	2.0**	9.0		10.0	1, 6
Lewinsville Road		1.5	2.0**	7.0		6.0	1, 6
Oak Street		1.5*	2.0**	4.0		6.0	1, 6
1. Connect 21B to UD-4 at edge of roadway pavement						* Use SM-9.5A	
2. Shoulders shall be same as required adjacent pavement section						** Use IM-19.0A	
3. In wet or high ground-water areas or adjacent to cuts > 15 feet, use UD-1							
4. In wet or high ground-water areas or adjacent to cuts > 10 feet, use UD-1							
5. Existing shoulders w/ < a 13-inch thick combination of asphalt and concrete are to be demolished and replaced w/ new pavement sections, unless sufficient additional asphalt build-up is added to be structurally equivalent to the proposed widening section. The limits of the existing concrete are to be verified during construction.							
6. Continue surface and intermediate asphalt courses over 6.0 inches of 21B to shoulder edge							

B. I-495 Existing Pavement Milling and Overlaying

All existing pavement where pavement markers or striping is removed shall be milled to a depth of 2.0 inches and replaced with asphalt concrete Type SM-12.5E(M). All existing pavement covered by latex slurry seal coats shall be milled to a depth of 2.0 inches and replaced with asphalt concrete Type SM-12.5E(M).

C. Soil Subgrade Requirements

Pavement design for the project is based on an average CBR of 4.5 and a design CBR of 3.0. Undercut replacement materials shall consist of a minimum of 2 feet of suitable fill having a minimum soil CBR of 4.5. CBR 30 material may be used for stabilization purposes but it shall not be considered as part of the pavement section. All off-site borrow soils are to have a minimum CBR value of 4.5.

D. Construction Over Concrete Joints

Existing shoulders shall be designed so that wheel paths are located no closer than 2.0 feet from the edges of existing longitudinal joints in the shoulders. Otherwise, the shoulders shall be cut and removed as needed to meet this requirement.

E. Phase III

Pavement section beyond gore areas (where ramps are independent roadways) should have the same sections as HOT Lanes pavement.

Attachment 3.14: Interface Specification

See attached document

US Projects Specification

ATMS/HOT-OC TMS Functional Interface Specification

DRAFT

Created: December 7, 2006

Updated: December 7, 2006

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Classification

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Document Control

Date	Version	Author	Comments (including Review History)
Dec 7, 06	0.1	T. Bueker / A. Donley	First Draft
Dec 8, 06	0.2	T. Phillips (NoVA)	Better definition of VOIS, RITIS, added Message Queuing, IEEE 1512 references, sentence to allow for changes based upon other PPTA projects (I-95 HOT).

Classification

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File

ATMS - HOT OC TMS
Functional Interface
Specification Rev 0.2 Final



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of 16

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ATMS / TMS Functional Interface Specification

1. Introduction

1.1. Background

1.1.1. Transurban and Fluor have formed a consortium (“Consortium”) to pursue the development of toll road projects in the Virginia market, pursuant to the Public-Private Transportation Act of 1995 of the Code of Virginia. On 28 April 2005 the Consortium signed an Amended Comprehensive Agreement with the Virginia Department of Transportation (VDOT). This agreement grants the Consortium the right to develop build and operate HOT Lanes on the Capital Beltway I-495 between the American Legion Bridge to Springfield Interchange.

1.1.2. VDOT and the Fluor Transurban Consortium (FTU) recognize that the Capital Beltway must be jointly operated by VDOT and FTU, and therefore there is a need to interface the proposed VDOT Advanced Traffic Management System and the HOT-OC Traffic Management System (TMS) to facilitate the sharing of information.

1.1.3. There is also a requirement for the HOT-OC TMS to interface with other external systems to support operations and tolling.

1.2. Document Purpose

1.2.1. This document describes at a functional level the external system interface requirements for the HOT-OC Traffic Management System (TMS). The purpose of the document is to ensure that the number and complexity of the HOT-OC TMS external interfaces is adequately scoped and documented to:

- a. allow for the accurate estimate of implementation costs, and
- b. support commercial negotiations between VDOT and FTU.

1.3. References

- A. Concept of Operations – Tolling and Enforcement
- B. Concept of Operations – Operations and Traffic Management

ATMS / TMS Functional Interface Specification

1.4. Glossary

Term	Definition
ATMS	Advanced Traffic Management System
Automatic Incident Detection	Automatic Incident Detection
TMS	Traffic Management System
DMS	Dynamic Message Signs
FTU	Fluor Transurban Consortium
GP	General Purpose
HOT Lanes	High Occupancy Toll Lanes
HOV	High Occupancy Vehicles. Vehicle carrying three persons or more
IDMS	Incident Detection, Monitoring and Surveillance
In Field Equipment	Includes DMS, VOS Sensors, Ramp Meters, CCTV Camera, Detectors, Other Sensors
JOA	Joint Operating Agreement
NOVA	Northern Operations Region, Virginia
OC	Operations Center
PPTA	Public Private Transportation Act of 1995
PSTOC	Public Safety Transportation Operations Center
RITIS	Regional Integrated Transportation Information System
STC	Smart Traffic Center
T&TTI	Toll and Travel Time Information
TCR	Traffic Control Room
TCROs	Traffic Control Room Operators
TMS	Traffic Management System
VDOT	Virginia Department of Transportation
VOIS	Virginia Operational Information System
VOS	Volume, Speed and Occupancy
XSD	XML Schema Definition

2. Assumptions and Constraints

2.1. NOVA STC will only need to directly control HOT-OC DMS on rare occasions in response to significant natural disasters and/or national emergencies. Generally, the requirement to display traffic management messages on HOT-OC DMS will be managed procedurally through verbal or written

ATMS / TMS Functional Interface Specification

communications between NOVA STC operators and HOT-OC operators. Implementation of traffic management messages will normally be the responsibility of HOT-OC operators.

2.2. PTZ control access by NOVA STC operators to HOT-OC CCTV cameras will not be restricted, however, agreed protocols on the use of HOT-OC CCTV cameras will be adhered to.

2.3. There may be other PPTA initiatives that FTU pursues in Northern Virginia. It is recognized that further integration between FTU and VDOT may need to occur under a separate document or through revisions to this document.

3. Interface Architecture

3.1. System Interconnections

3.1.1. Figure 1 below provides an overview of system interconnections. The HOT-OC Traffic Management System is required to interface to the following systems:

- a. NOVA STC Advanced Traffic Management System (ATMS),
- b. Regional Integrated Transportation Information System (RTIS),
- c. VDOT Operations Information System (VOIS) 2,
- d. Corporate Web and Management Systems, and
- e. Dynamic Tolling System.

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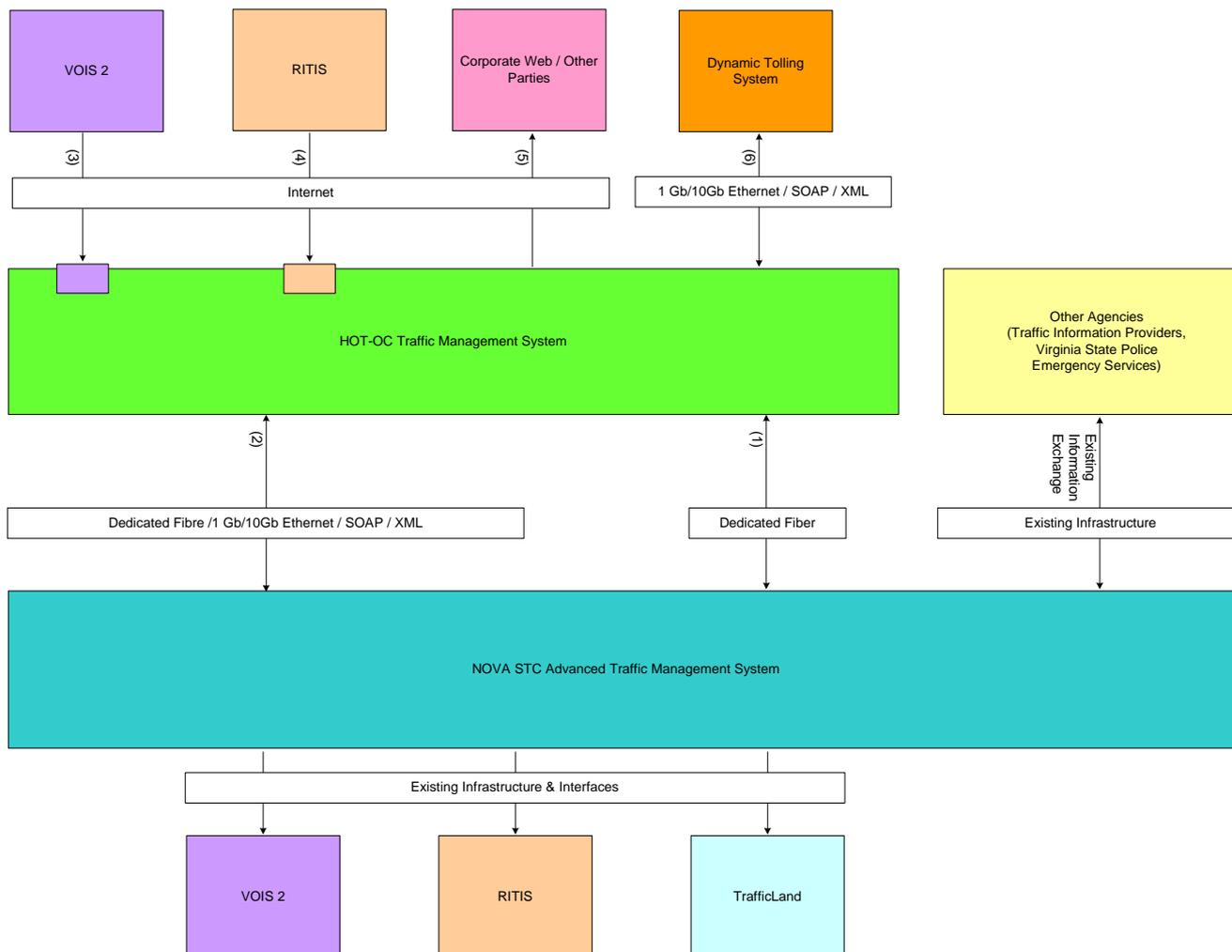


Figure 1 - System Interconnection Diagram

3.1.2. There is no requirement for the HOT-OC TMS to pass data or CCTV video to third party or government entities.

3.1.3. The NOVA STC ATMS shall forward relevant traffic data from the HOT-OC TMS to:

- a. RITIS,
- b. VOIS 2, and
- c. Other Agencies including Virginia State Police, Emergency Services and Transit Authorities

3.1.4. Currently VDOT forwards CCTV video to TrafficLand.

3.1.5. The NOVA STC ATMS shall forward CCTV video to third party distributors of video images.

ATMS / TMS Functional Interface Specification

3.2. NOVA STC ATMS Interface

3.2.1. Figure 2 details the interfaces between the NOVA STC ATMS and the HOT-OC TMS. Interface requirements are detailed in Section 4 - Functional Interface Requirements – STC ATMS / HOT-OC TMS.

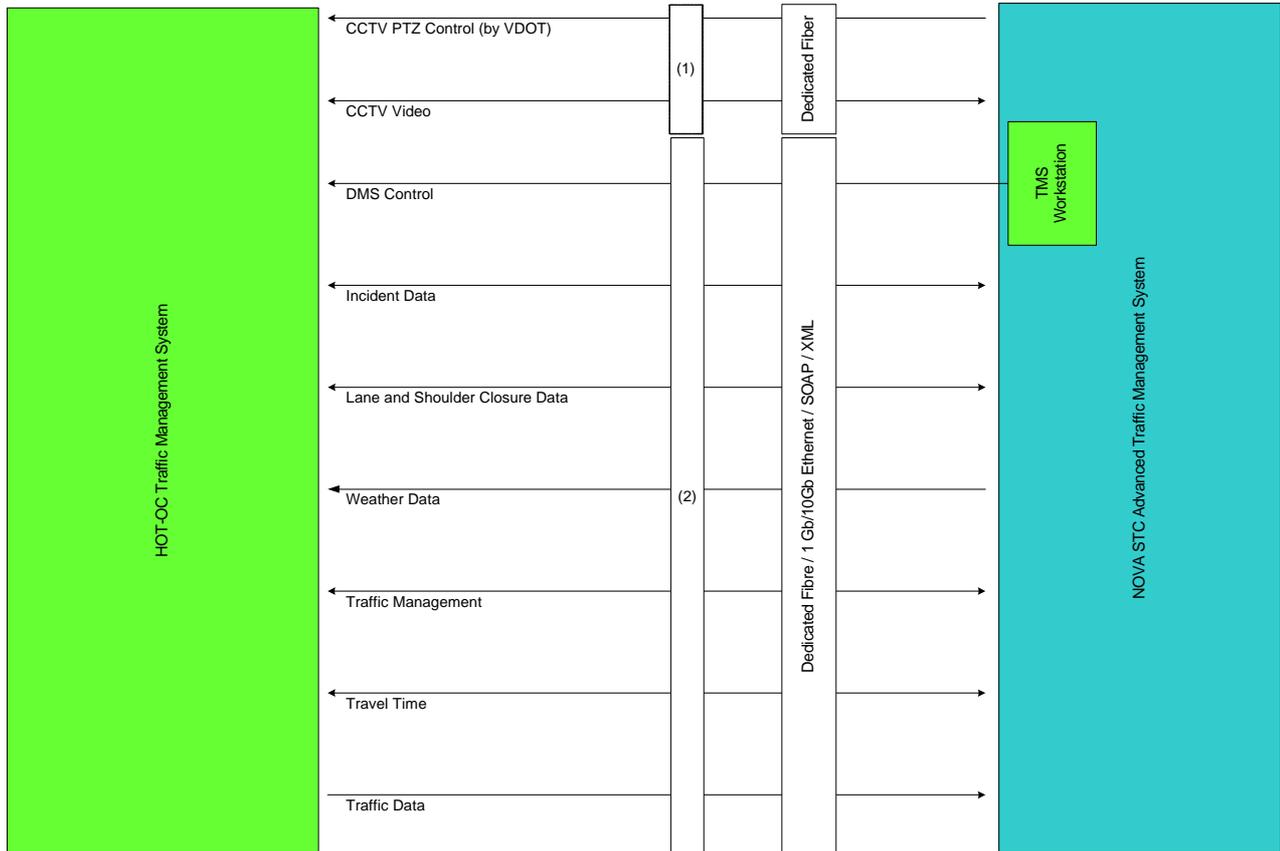


Figure 2 – NOVA STC / HOT-OC Interface

3.2.2. NOVA STC control of HOT-OC DMS shall be through a HOT-OC TMS operator workstation located at the PSTOC.

3.3. VOIS 2 Interface

3.3.1. VOIS 2.0 has been designated as an official VDOT emergency road condition data repository. VOIS 2.0 is a web-based application that allows a user, representing any participating agency, the ability to input spatial, temporal, and characteristic elements relating to roadway conditions including emergencies, construction/work zone, traffic congestion, and traffic incident information. In addition weather information is provided via VDOT’s Roadway Weather Information System (RWIS), the National Weather Service (NWS) weather advisories, and Integrated Flood Observing and Warning System (IFLOWS). Most recently, VOIS has become the main input for the 511 Virginia system. The basic components of VOIS are roadway emergencies, incidents, construction/maintenance work zones, congestion and weather information. .

ATMS / TMS Functional Interface Specification

3.3.2. HOT-OC TMS access to VOIS 2 information shall be through a standalone workstation connected to the internet and a web interface.

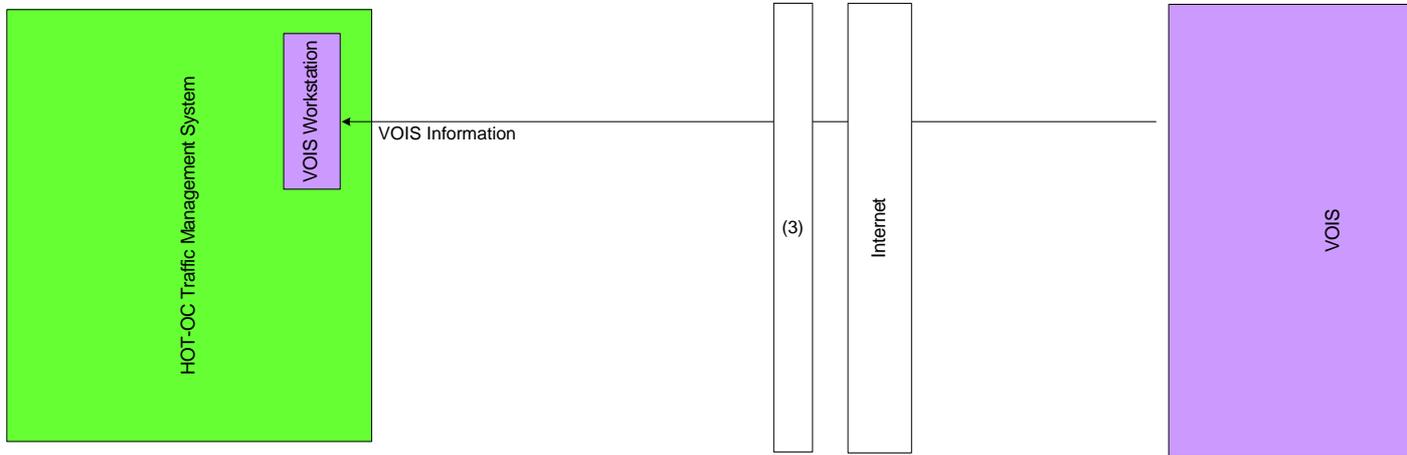


Figure 3 – VOIS / HOT-OC Interface

3.4. RITIS Interface

3.4.1. RITIS will integrate existing transit and transportation management system data from parts of Virginia, Maryland, and the District of Columbia into a regional integrated transportation information system. RITIS will emphasize data fusion and its relationship to data collection, regional transportation systems management, regional traveler information dissemination, and systems evaluation.

3.4.2. HOT-OC TMS access to RITIS information shall be through a standalone workstation connected to the internet and a web interface.

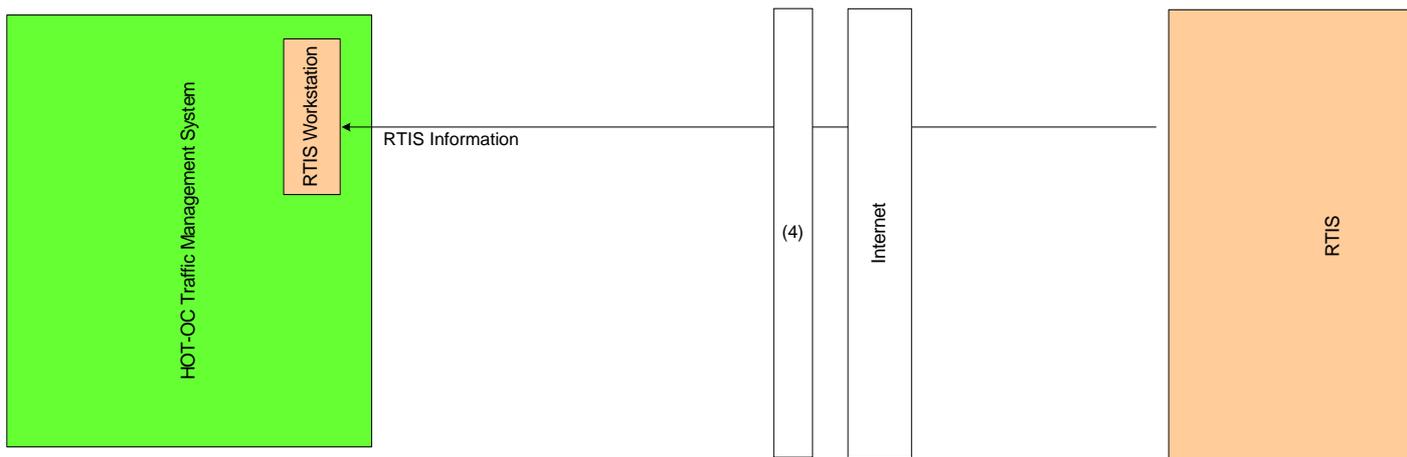


Figure 4 - RITIS Interface

ATMS / TMS Functional Interface Specification

3.5. Corporate and Management Information System Interface

3.5.1. The HOT-OC TMS shall interface to a corporate web server and/or management information system for the purposes of providing the following information for on-forwarding to FTU management and HOT lanes customers:

- a. travel times,
- b. incident information, and
- c. maintenance & lane closure information.

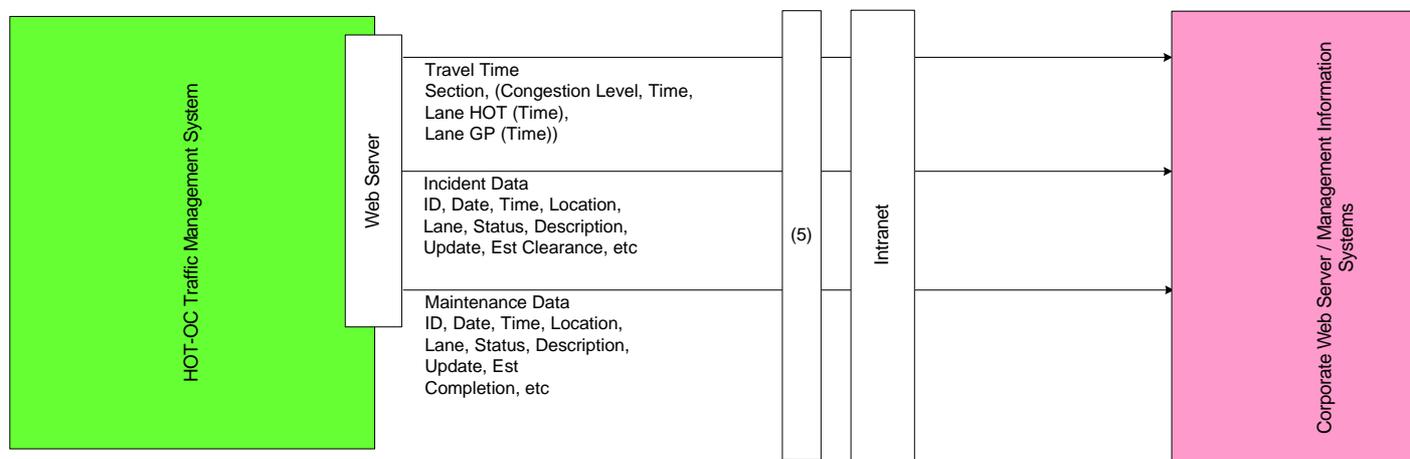


Figure 5 - Corporate / Management Information System Interface

3.6. Dynamic Tolling System

3.6.1. Toll prices for three tolling HOT-Lane segments will be displayed on DMS located on approaches to the HOT lanes. Toll prices are calculated by the Dynamic Tolling System based on traffic data passed from the HOT-OC TMS.

3.6.2. The HOT-OC TMS shall receive from the Dynamic Tolling System toll price data for each HOT Lane tolling segment.

3.6.3. The HOT-OC TMS shall send to the Dynamic Tolling System:

- a. incident data including lane closure information,
- b. toll prices actually displayed on the DMS,
- c. DMS status, and
- d. traffic data.

3.6.4. Data requirements will be refined when studies on the Dynamic Tolling System functionality and algorithms are completed.

ATMS / TMS Functional Interface Specification

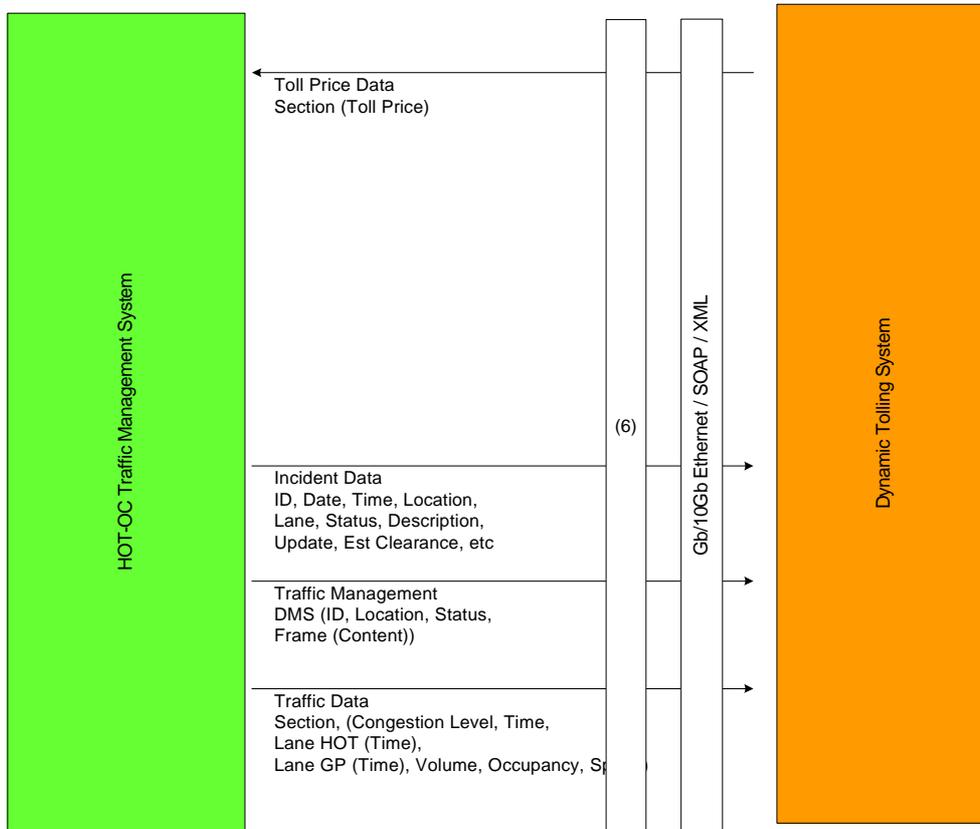


Figure 6 - Dynamic Tolling System Interface (draft)

3.7. Application Considerations

3.7.1. The preferred format for content of messages to be exchanged between the STC ATMS and the HOT-OC shall be according to Extensible Markup Language (XML) and shall utilize to the extent possible relevant published standards such as IEEE 1512.

3.7.2. The preferred messaging protocol for exchange of messages between the STC ATMS and the HOT-OC shall be according to the Simple Object Access Protocol (SOAP) v1.2.

3.7.3. The preferred method of system to system communications is via a Message Queuing Service. Data Replication via FTP or a Web-Service Push-Pull is not recommended. Utilizing a Message Queuing Service allows for either system to disconnect or go offline without the risk of losing data. The Message Queuing System delivery method allows the receiving or source system to consume data as resources permit.

ATMS / TMS Functional Interface Specification

4. Functional Interface Requirements – STC ATMS / HOT-OC TMS

4.1. CCTV Video and Pan Tilt Zoom Control

4.1.1. The following functions shall be implemented to enable interoperability of CCTV systems:

- a. Sharing of CCTV image feeds.
- b. Selection of specific CCTV image feed for viewing.
- c. Control of the Pan / Tilt / Zoom function on CCTV cameras.

4.1.1.2. Sharing of CCTV Image Feeds:

- a. CCTV Video from all HOT-OC CCTV cameras shall be accessible at the VDOT-STC.
- b. CCTV Video from all VDOT CCTV cameras shall be accessible at the HOT-OC.
- c. The technical details of the transmission media (i.e. Video-over-IP, analog feeds in conjunction with video switches) shall be resolved at a later date.
- d. VDOT-STC shall be able to receive a minimum of 8 HOT-OC video streams concurrently.
- e. HOT-OC shall be able to receive a minimum of 8 VDOT-STC video streams concurrently.

4.1.1.3. Selection of specific CCTV image feed for viewing.

- a. VDOT-STC shall be able to select any HOT-OC CCTV camera for display on a VDOT-STC display.
- b. HOT-OC shall be able to select any VDOT-STC CCTV camera for display on a HOT-OC display.

4.1.1.4. Control of the Pan / Tilt / Zoom function on CCTV cameras.

- a. VDOT-STC shall be able to control the PTZ function on any HOT CCTV camera.
- b. PTZ Control of HOT-OC CCTV cameras shall be prioritized. Normally HOT-OC operators shall have priority control of HOT-OC CCTV cameras.
- c. There shall be no restrictions on access. A procedural protocol shall be put in place to resolve any potential contention issues.

4.2. Incident Data

4.2.1. The HOT-OC and VDOT-STC shall exchange Incident Data.

ATMS / TMS Functional Interface Specification

4.2.2. Incident data and message sets shall be based on the schema defined in IEEE 1512. [VDOT shall provide a copy of VDOT incident data XSD to FTU prior to January 31, 2007. This schema definition will be based upon IEEE 1512 Emergency Management Data Schema.]

4.2.3. The following subclauses identify the defined paths through this use case:

4.2.1.1. Send New Incident Data:

a. "New Incident" data shall be sent from HOT-OC to VDOT-STC and vice versa.

4.2.1.2. Send Updated Incident Data:

a. "Updated Incident" data shall be sent from HOT-OC to VDOT-STC and vice versa.

b. "Incident Closure" data shall be included within the scope of "Updated Incident" data.

4.3. Lane and Shoulder Closure Data

4.3.1. The HOT-OC and VDOT-STC shall exchange Lane and Shoulder Closure data.

4.3.2. The following subclauses identify the defined paths through this use case:

4.3.1.1. Send Proposed Lane and Shoulder Data:

a. "Proposed Lane and Shoulder" data shall be sent from HOT-OC to VDOT-STC and vice versa.

4.3.1.2. Send Updated Lane and Shoulder Data:

a. "Updated Lane and Shoulder" data shall be sent from HOT-OC to VDOT-STC and vice versa.

b. Closure data shall be included within the scope of "Updated Lane and Shoulder" data.

4.3.3. Lane and Shoulder Data shall contain the following minimum content:

a. ID – a unique identification number

b. Date – dates when the message was raised

c. Time – time when the message was raised

d. Status – change in status of the shoulder or lane (Proposed / Open / Closed)

e. Start Date – date at which the change will take effect

f. Start Time – time at which the change will take effect

g. Start and End Link(s) – identifies the scope of the shoulder or lane change

h. Lane – identifies the lane number

ATMS / TMS Functional Interface Specification

- i. Direction – identifies direction of traffic flow
- j. End Date – date at which the change will be completed
- k. End Time – time at which the change will be completed
- l. Contact ID – identifies person responsible for lane or shoulder closure
- m. Contact Number – provides a contact telephone number for person responsible for lane or shoulder closure

4.4. Weather Data

- 4.4.1. The HOT-OC and VDOT-STC shall exchange Lane and Shoulder Closure data.
- 4.4.2. The following subclauses identify the defined paths through this use case:
 - 4.4.1.1. Send Weather Data:
 - a. The HOT-OC shall receive “Weather” data sent from the VDOT-STC.
 - b. “Weather” data updates shall be sent at a minimum of every 10 minutes [TO BE CONFIRMED].
 - 4.4.3. Weather Data shall contain the following minimum content:
 - a. Sensor ID – identification number of the sensor providing the data
 - b. Air Temp – current air temperature being reported
 - c. Pavement Temp – current pavement temperature being reported
 - d. Wind speed – current wind speed being reported
 - e. Wind direction – current wind direction being reported
 - f. Precipitation – current precipitation being reported (in inches)
 - g. Chemical data – identifies presence of detected chemicals (e.g. NaCl, CaCl)
 - h. Predicted Air Temp – air temperature(s) being predicted over a 24 hour period
 - i. Predicted Pavement Temp – pavement temperature(s) being predicted over a 24 hour period

4.5. Traffic Management Data

- 4.5.1. The HOT-OC and VDOT-STC shall exchange Traffic Management data for display on Dynamic Message Signs (DMS).
- 4.5.2. The following subclauses identify the defined paths through this use case:

ATMS / TMS Functional Interface Specification

4.5.1.1. Send DMS Data:

- a. "Send DMS" data shall be sent from HOT-OC to VDOT-STC and vice versa.
- b. "Send DMS" data shall be automatically sent to the other party whenever there is a change in the contents of a DMS.
- c. "Send DMS" data shall be sent whenever the other party requests a refresh of the current content of a sign.

4.5.1.2. Get DMS Data:

- a. "Get DMS" data shall be sent from HOT-OC to VDOT-STC and vice versa.
- b. "Get DMS" data shall be sent to request the current contents of a DMS. This shall result in a "Send DMS" data message being sent by the other party.

4.5.3. DMS Data messages shall contain the following minimum content:

- a. DMS ID – identification number of the DMS being reported on
- b. Location – location of the DMS being reported on
- c. Status – status of the DMS being reported on (Offline / Online / Fault)
- d. Frame Text 1 – contents of frame line 1
- e. Frame Text n – contents of frame line n

4.6. Traffic Data

4.6.1. The HOT-OC and VDOT-STC shall exchange Traffic data.

4.6.2. "Traffic" data updates shall be sent at a minimum of every 1 minute.

4.6.3. The following subclauses identify the defined paths through this use case:

4.6.1.1. Send Traffic Data:

- a. "Traffic" data shall be sent from HOT-OC to VDOT-STC and vice versa.

4.6.4. Traffic Data shall contain the following minimum content:

- a. Sensor ID – identification number of the sensor providing the data
- b. Location – location of the sensor providing the data
- c. Direction – direction of traffic flow being reported
- d. Status – status of sensor being reported (OK, Not Available, Degraded)

ATMS / TMS Functional Interface Specification

- e. Lane – lane number being reported
- f. Speed – average traffic speed over the previous minute
- g. Occupancy – average lane occupancy over the previous minute
- h. Volume – average volume over the previous minute

4.7. Travel Time Data

- 4.7.1. The HOT-OC and VDOT-STC shall exchange Travel Time data.
- 4.7.2. "Travel Time" data updates shall be sent at a minimum of every 1 minute.
- 4.7.3. The following subclauses identify the defined paths through this use case:
 - 4.7.1.1. Send Travel Time Data:
 - a. "Travel Time" data shall be sent from HOT-OC to VDOT-STC and vice versa.
 - 4.7.4. Travel Time data shall contain the following minimum content:
 - a. Sector ID – sector number being reported on
 - b. Current Travel Time – travel time for interval being reported on
 - c. Predicted Travel Time Next Interval x – predicted travel time for sector in 30 minutes, 60 minutes, 90 minutes and 120 minutes.
- 4.7.5. This clause does not obligate FTU or VDOT to provide predicted travel times to either party. It recognizes that both parties have a strategic objective to predict travel times based on historical data

Attachment 3.19 - Non-Disclosure Agreement



**Critical Infrastructure Information/Sensitive Security
Information (CII/SSI)
Multi-Purpose Non-Disclosure Agreement**
**Retain a copy of both the front and back sides of this form
for future reference**

VDOT requires CII/SSI be protected and not disclosed to unauthorized persons.

PART A: To Be Completed By Individual VDOT or Company Employee

I agree with the following as a condition of being granted access to CII/SSI:

CII/SSI, which is valuable and sensitive, is protected by law and by strict VDOT policies. The intent of these laws and policies is to assure that CII/SSI will remain confidential - that is, it will be used only as necessary to accomplish VDOT's mission. Disclosure of CII/SSI in any manner that permits interception by unauthorized persons could compromise safety and security and is prohibited. CII/SSI may be released only to persons with a need-to-know.

I might have access to this information in various formats including but not limited to documents and drawings, physical structures, and computer based systems. I have no right or ownership interest in any VDOT CII/SSI. VDOT may at any time revoke my authorization allowing access to CII/SSI.

Willful violation of this agreement may subject me to discipline which might include, but is not limited to,

Each provision of this agreement is severable. If any administrative or judicial tribunal should find any provision of this agreement to be unenforceable, all other provisions shall remain in full force and effect.

I make this agreement in good faith, without mental reservation or purpose of evasion.

removal from current VDOT projects; exclusion from further VDOT related work; and legal liability. My obligations with respect to the confidentiality and security of all CII/SSI disclosed to me shall survive the termination of any agreement or relationship with VDOT. My execution of this agreement shall not nullify or affect in any manner any other agreement, non-disclosure or otherwise, which I have executed or may execute with VDOT or the Commonwealth of Virginia.

I am obligated to protect this information from unauthorized disclosure in accordance with the terms of this agreement. I will only use CII/SSI that I obtain to perform my legitimate VDOT related duties. I will conduct myself in a strict conformance to applicable laws and VDOT policies governing CII/SSI. I will safeguard the confidentiality of all CII/SSI at all times. I will be responsible for my misuse or my wrongful disclosure of CII/SSI.

Printed Name _____ Date _____

VDOT District/Division OR Company Name _____ Phone Number _____

Company Address

Signature _____ Signature of Authorized Agent _____
(Not required for VDOT employees)

PART B: To Be Completed By Company Agent Only:

In addition to the provisions above, I certify:

All employees of this company involved with this VDOT project, regardless of location, who will have access to CII/SSI, myself included, will complete Part A of the Critical Infrastructure Information/Sensitive Security Information Multi-Purpose Non-Disclosure Agreement. The Agreement will be signed by me and accepted by VDOT prior to being granted access to CII/SSI. We will only access CII/SSI for which we have a need-to-know.

- a) We will safeguard the confidentiality of all CII/SSI at all times. We will conduct ourselves in strict conformance to applicable laws and VDOT policies governing CII/SSI. Obligations with respect to the confidentiality and security of all CII/SSI disclosed to us shall survive the termination of any agreement or relationship with VDOT

Attachment to Exhibit N – Technical Requirements

Attachment 3.19



Authorized Company Agent:

Signature of Authorized Agent Date

Printed Name Title

Company Name Phone Number

Company Address

VDOT Contract Name and Number

This form is valid for the identified project for a period of two years, while employed by the same company.

Critical Infrastructure Information/Sensitive Security Information (CII/SSI)

Multi-Purpose Non-Disclosure Agreement

Back Page

Retain a copy of both the front and back sides of this form for future reference.

Handling CII/SSI

You are responsible for safeguarding Critical Infrastructure Information/Sensitive Security Information (CII/SSI) in your custody or under your control.

The extent of protection afforded CII/SSI shall be sufficient to reasonably foreclose the possibility of its loss or compromise.

The terms of this clause (Handling CII/SSI), including this paragraph, must be included in any dissemination of any document, in whole or in part, that contains CII/SSI.

Protection - CII/SSI shall be protected at all times, either by appropriate storage or having it under the personal observation and control of a person authorized to receive it. Each person who works with protected CII/SSI is personally responsible for taking proper precautions to ensure that unauthorized persons do not gain access to it.

Use and Storage - During working hours, reasonable steps shall be taken to minimize the risks of access to CII/SSI by unauthorized personnel. After working hours, CII/SSI shall be secured in a secure container, such as a locked desk, file cabinet or facility where contract security is provided.

Reproduction - Documents or material containing CII/SSI may be reproduced to the minimum extent necessary consistent with the need to carry out official duties provided that the reproduced material is marked and protected in the same manner as the original material.

Disposal - Material containing CII/SSI shall be disposed of by any method that prevents unauthorized retrieval (e.g. shredding, burning, returning to original source, etc.).

Transmission - CII/SSI shall be transmitted only by VDOT courier, US first class, express, certified or registered mail, or through secure electronic means.

Attachment 4.5 – Performance Requirements Baseline Tables

ATTACHMENT 4.5: Performance Requirements Baseline Tables

1 Asset Condition Requirements

Table 4.5a: Asset Condition Requirements Baseline Table

[Note: Table developed with reference to VDOT intervention levels and major maintenance practices]

Asset	Performance Requirement	Inspection / Measurement Method	Target
Pavement	Roadways have a smooth and quiet surface course with adequate skid resistance and free from defects All measurement methods and application for the HOT lanes based on the asset condition reports and Lifecycle Maintenance Plan prepared will be considered in determination of performance requirements for Pavement	Pavement condition scores as outlined in ASTM D 5340. Pavement condition score will consider the following pavement deficiencies : potholes, cracking, joints, raveling, shoving, rutting, etc.	90
		Percentage of wheel path length with ruts greater than 3/4 " in depth, measured using a straight edge, at localized areas / auditable section	3%
		Rut depth measured using a straight edge at localized areas / auditable section	Maximum 3/4"
		International Roughness Index Rating (IRI)	max 170 inches per mile or lower
		Critical Condition Index (CCI) (1) CCI is calculated as the lower of Load-related Distress Rating (LDR) and Non Load-related Distress Rating (NDR)	70-89 ("Good" bracket)
		Skid resistance, using standard test method, compared to mean skid resistance of I-495 GP Lanes	Exceeds mean
Structures	Structures fully functional and structurally sound. All measurement methods and application for the HOT lanes based on the asset	Inspection and assessment in accordance with the requirements of federal National Bridge Inspection Standards (NBIS) of the Code of Federal Regulations, 23 Highways – Part 650.	All condition ratings to be fair or more for any deck, superstructure or substructure All condition states to be one for all

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

Asset	Performance Requirement	Inspection / Measurement Method	Target
	condition reports and Lifecycle Maintenance Plan prepared will be considered in determination of performance requirements for Structures		structure components
Drainage	Drainage system is effective at ensuring travel way is free from water such that the water does not present a hazard by virtue of its location, size and depth	Visual inspection	90% (no hazardous free standing water)
Electrical supply	Electrical supply, feeder pillars, cabinets, switches and fittings are electronically, mechanically and structurally sound and functioning	Visual inspection	90%
Hazardous materials / spillage	Control of hazardous materials shall be in accordance with Chapter 13, NFPA 502	Incident reports show compliance	100%
Structural assessment	Evaluate structural damage to structures and liase with emergency services to ensure safe working in clearing incidents	Inspections and surveys as required by incident	90%

(1) A Guide to Evaluating Pavement Distress Through the Use of Digital Images, Virginia Department of Transportation, Asset Management Division, Apr. 2006.

2 O&M Performance Requirements

2.1 Northern Virginia TAMS Performance Requirements – Baseline Level Of Service

a) The Concessionaire shall achieve and maintain a Maintenance Rating Program (MRP) rating of 90% or above for all assets for each route unless otherwise noted. The Concessionaire shall use the criteria in Table 4.4b the level of maintenance attained to ensure a uniform consistent level of Maintenance at all times. All Asset Groups (roadway & shoulder, roadside, traffic services, drainage, and bridge) shall have a minimum rating of 90% unless otherwise noted herein.

Table 4.5b – O&M Baseline level of Service

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
ROADSIDE ASSET GROUP				
Vegetation	Healthy Growing Neat appearance Acceptable coverage Proper sight distance	90	<ul style="list-style-type: none"> <10% of mowable area per 1/10th mile section to exceed 12" in height (unless otherwise noted). All sight distances are clear. Neat/trimmed around guardrail, headwalls, paved ditches, concrete barriers, curb and gutters, rock or median areas, signs, and other fixed objects. <10% bare ground per 1/10th mile section. No cut less than 4" in height. No invasive species in mowable areas (Canadian Thistle, Kudzu Vine, Johnson Grass, Japanese Knotweed). Litter pickup shall occur in advance of each mowing cycle. Prevent the growth of unwanted weeds, grass, brush and trees. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Vegetation-affecting sight distance presenting a safety hazard shall be removed within 24 hours of notification or discovery. All other vegetation deficient areas shall be corrected within 4 days of notification or discovery. 	Acre
Brush & Trees	No hazardous trees Unobstructed sight distance	90	<ul style="list-style-type: none"> No trees or brush affecting sight distance. Vertical clearance of 20' over roadway (includes shoulders). Vertical clearance of 7' over side walks. No leaning or dead trees that present a hazard. 	Acre

Attachment to Exhibit N – Technical Requirements
Attachment 4.5

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
	Vertical clearance Structure inspection & repairs unobstructed Proper notification shall be provided to local owners before trimming trees		<ul style="list-style-type: none"> • No brush or trees that affect the inspection or repair of bridges or other structures. • No brush or trees that affect utility company reading or inspection. • No trees within the clear zone or mowing areas. Timeliness Requirement: <ul style="list-style-type: none"> • Trees/brush affecting sight distance to regulatory signs and/or creating safety hazard shall be removed within 48 hours of notification. • All other tree issues shall be removed within 2 weeks. • Safety issues shall be mitigated immediately. 	
Debris & Road kill	Roadway free of debris & road kill No dump sites	100	<ul style="list-style-type: none"> • No dump sites on right-of-way. • Debris and Road kill promptly removed from the right-of-way and properly disposed. • Owner of household pets to be notified if identification is available. Timeliness Requirement: <ul style="list-style-type: none"> • If road kill is in roadway, Concessionaire shall respond immediately upon notification or discovery, 60 minute response time during normal work hours and 60 minute response time outside normal work hours. If not in roadway, Concessionaire shall respond within 24 hours. 	Each
Litter	Right-of-way neat & attractive	90	<ul style="list-style-type: none"> • <30 items (greater than the size of a sheet of paper or a standard brick) per 1/10th mile section. Timeliness Requirement: <ul style="list-style-type: none"> • Concessionaire shall respond to locations of excessive litter with 3 days of notification or discovery. 	Acre
Landscaping, Wildflowers Beds, Bulb Beds, Ornamental Shrub Beds	Neat Attractive Growing	90	<ul style="list-style-type: none"> • <10% of bed contains weeds. • Beds will be mulched. • <10% of bed not growing. • Neat appearance and pruned. Timeliness Requirement: <ul style="list-style-type: none"> • Concessionaire shall insure compliance within 14 days of notification or discovery. 	Acre

**Attachment to Exhibit N – Technical Requirements
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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
Illegal signs/ structures	Right-of-way free of illegal signs or structures	100	<ul style="list-style-type: none"> • No illegal signs on the right-of-way. • No illegal structures on the right-of-way. Timeliness Requirement: <ul style="list-style-type: none"> • Concessionaire shall remove illegal signs/structures within 3 days of notification or discovery. • Safety issues shall be mitigated immediately. 	Each
Concrete Barriers	Safe Structurally sound	90	<ul style="list-style-type: none"> • Free of vegetation. • <10% joint material damaged or missing. • Weep Holes \geq 90% free of obstruction. Timeliness Requirement: <ul style="list-style-type: none"> • Damaged or misaligned barriers due to accidents/ incidents shall be mitigated immediately upon notification or discovery or before accident scene is cleared. • Repairs to barriers shall be completed within 10 days of notification or discovery. • Safety issues shall be mitigated immediately. 	Each
Sound Walls & Barriers	Structurally sound Functional	90	<ul style="list-style-type: none"> • Free of damaging vegetation. • <10% damage to surface materials. Timeliness Requirement: <ul style="list-style-type: none"> • Damaged or misaligned barriers or walls due to accidents/incidents shall be mitigated immediately upon notification or discovery or before accident scene is cleared. • A plan for repairs to barriers or walls shall be completed within 10 days of notification or discovery. • Safety issues shall be mitigated immediately 	LFT
Slopes	Stable No erosion	90	<ul style="list-style-type: none"> • <8" deep erosion. • No pattern of erosion that endangers the stability of the slope. • <105 feet greater than 2" lower than paved shoulder within .1 mile sample unit. • <105 feet greater than 2" higher than paved shoulder within .1 mile sample unit. Timeliness Requirement: <ul style="list-style-type: none"> • Any safety hazard that results from a sink hole, slide, high slope 	LFT

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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> or low slope areas shall be mitigated immediately. Repairs to sink holes and slides shall be completed within in 7 days of notification or discovery. High and or low slope areas shall be repaired within 30 days. Safety issues shall be mitigated immediately 	
Fence	Functional Structurally sound	90	<ul style="list-style-type: none"> <10% fence in need of repair. No damage that allows access. Fee of damaging vegetation. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Any damaged or fallen fencing that allows access shall be mitigated immediately and replaced/repared within 7 days after notification or discovery. Safety issues shall be mitigated immediately. 	LFT
Crossovers/Police Parking Locations	Safe Functional	95	<ul style="list-style-type: none"> Properly signed if open Properly signed / blocked if restricted access Free of potholes Properly maintained driving surface (as constructed) <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Damage crossovers/police parking locations shall be repaired within 30 days of notification or discovery. Safety issues shall be mitigated immediately. 	Each
Retaining Walls	Structurally sound Safe Clean Stable	90	<ul style="list-style-type: none"> Free of damaging vegetation. Weep holes open. No damaged or missing parts. Metal components free of rust. Joints and joint material intact. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Damage to retaining walls shall be repaired within 30 days of notification or discovery. Safety issues shall be mitigated immediately. 	Each

**Attachment to Exhibit N – Technical Requirements
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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
DRAINAGE ASSET GROUP				
Pipes & Box Culverts (≤ 36 sq. ft.)	Structurally Sound Open & Drains Joints intact Functional Free of damage	90	<ul style="list-style-type: none"> • <10% diameter closed. • No separated joints. • No missing joint material. • <1' deep erosion at ends. • End walls & end section intact and free of damage (includes load carrying grates). <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Culverts or structures beyond 50% diameter closed shall be cleaned and opened within 7 days. • Culverts/structures structurally near collapse shall be mitigated immediately. • Safety issues shall be mitigated immediately. 	Each
Pipes & Box Culverts (>36 sq. ft.)	Structurally Sound Open & Drains Joints intact Functional Free of damage	90	<ul style="list-style-type: none"> • <10% diameter closed. • No missing joints material. • <1' deep erosion at ends. • Free of damaging vegetation. • End walls & end sections intact and free of damage (includes load carrying grates). <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Culverts or structures beyond 25% diameter closed shall have a planned action for permanent resolution submitted for approval within 14 days of discovery. • Culverts/structures structurally near collapse shall be mitigated immediately. • Safety issues shall be mitigated immediately. 	Each
Ditches, Paved	Structurally sound Joints intact Open & Drains	90	<ul style="list-style-type: none"> • <2 inches settlement & joints intact. • No undermining or undercutting. • No obstructions impeding the flow of water. • <25% spalling of surface area. • <10% surface area cracking > ¼" wide. 	LFT

**Attachment to Exhibit N – Technical Requirements
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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> • No damaged or missing sections (includes energy dissipaters). <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Open complete blockages and abate significant erosion immediately upon discovery or notification. • Clean debris or remove vegetation impeding flow to clear flow lines within 30 days from notification or discovery. • Damage to paved ditch should be repaired within 90 days of notification or discovery, unless flow is impaired. Refer to the above for timeframes. • Safety issues shall be mitigated immediately. 	
Ditches, Unpaved	Open & Drains Minimal Erosion	90	<ul style="list-style-type: none"> • No water ponding. • No erosion > 6” deep. • No obstruction impeding the flow of water. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Open complete blockages and abate significant erosion immediately upon discovery or notification. • Clean debris or remove vegetation to clear flow lines within 30 days from notification or discovery. • Safety issues shall be mitigated immediately. 	LFT
Under drains & Edge drains	Structurally Sound Functional	90	<ul style="list-style-type: none"> • <10% damage or deterioration to outlet pipe. • <10% blockage of pipe or end protection. • No damaged or missing end protection (includes rodent screen). <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Conduct repairs within 90 days from notification or discovery. • Safety issues shall be mitigated immediately. 	Each
Storm Drains & Drop Inlets	Structurally sound Functional	90	<ul style="list-style-type: none"> • No damage or missing parts (includes steps, grate, cover & throat). • No obstructions (<10% of opening) (includes top, throat & drop 	Each

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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			inlet). Timeliness Requirement: <ul style="list-style-type: none"> • Storm Drains and Drop Inlets beyond 25% closed shall be cleaned within 14 days. • Storm Drains and drop Inlets beyond 50% diameter closed shall be cleaned and opened within 7 days. • Safety issues shall be mitigated immediately. 	
Curb & Gutter, Curbing Raised, Concrete Median	In line Draining Structurally sound	90	<ul style="list-style-type: none"> • No obstruction which impedes the flow of water. • <25% of surface area spalling. • No damaged or missing section. • No separation > ½” from asphalt surface. • Joints and joint material intact. Timeliness Requirement: <ul style="list-style-type: none"> • Open complete blockages and abate significant erosion immediately upon discovery or notification. • Clean debris or remove vegetation impeding flow to clear flow lines within 30 days from notification or discovery. • Damages should be repaired within 90 days of notification or discovery unless flow is impaired (refer to the above for timeframes). Safety issues shall be mitigated immediately.	LFT
Storm Water Management Ponds	Safe Structurally sound Functional	90	<ul style="list-style-type: none"> • No damage to stem pipes, weirs, grates, drainage tubing or debris racks. • Free of debris (stem pipes, weirs, grates, drainage tubing & debris racks). • No vegetation that affects the function (mowed, sprayed). • No fence missing or damaged (if present at start of contract). • No grass or vegetation greater than 12 inches. • Conduct inspections at least once every six months. Timeliness Requirement: <ul style="list-style-type: none"> • Inspection once every six months and after every significant storm event (documentation shall be maintained according to applicable state regulations). 	Each

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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> All deficiencies reported or discovered shall be corrected within 45 days. Safety issues shall be mitigated immediately. 	
TRAFFIC ASSET GROUP				
Signs (static) – Post Mounted	Meets Reflectivity Standards Clean & Clear Free of Damage	95	<ul style="list-style-type: none"> Meets current reflectivity standards (Type VIII sheeting or better), as updated (replacements). Reflective at 120' day or night. Surface clean & legible. <10% Damage to surface of sign (scratches, dents, graffiti, bullet holes, etc.). No down or missing signs. Mile markers are 60" in height to achieve uniform appearance. Timeliness Requirement: <ul style="list-style-type: none"> Damaged Regulatory/Warning signs shall be mitigated immediately upon notification or discovery. Damaged Regulatory/Warning signs shall be repaired or replaced within 2 days of notification or discovery. Damaged lane use informational signs shall be repaired or replaced within 10 days of notification or discovery. All other signs repaired or replaced within 30 days of notification or discovery. 	Each
Cable Locating: Electric, Fiber, Communications	Maintain Cable Facilities	100	<ul style="list-style-type: none"> <Than (1) error per 100 cable markings. <Than (2 linier ft.) tolerance from actual cable plant. Must maintain any and all cable infrastructure as as-built drawings. Excavators are not to begin until all underground utilities have been marked including those that might be maintained by Miss Utility. Timeliness Requirement: <ul style="list-style-type: none"> All cable marking requests must be logged and accomplished within 72 hrs of request. All emergency cable marking requests must be accomplished within 4 hrs. Emergency situations are defined as "a sudden or 	

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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<p>unexpected occurrence involving a clear and immediate danger, demanding immediate action to prevent or mitigate loss of, or damage to life, health, property or essential public services.”</p> <ul style="list-style-type: none"> • Damaged facilities due to mis-marked cables must be repaired or replaced within 8 hrs. 	
<p>Signs (static) – Post Mounted</p>	<p>Meets Reflectivity Standards Clean & Clear Free of Damage</p>	<p>95</p>	<ul style="list-style-type: none"> • Meets current reflectivity standards (Type VIII sheeting or better), as updated (replacements). Reflective at 120' day or night. • Surface clean & legible. • <10% Damage to surface of sign (scratches, dents, graffiti, bullet holes, etc.). • No down or missing signs. • Mile markers are 60” in height to achieve uniform appearance. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged Regulatory/Warning signs shall be mitigated immediately upon notification or discovery. • Damaged Regulatory/Warning signs shall be repaired or replaced within 2 days of notification or discovery. • Damaged lane use informational signs shall be repaired or replaced within 10 days of notification or discovery. • All other signs repaired or replaced within 30 days of notification or discovery. 	<p>Each</p>
<p>Cable Locating: Electric, Fiber, Communications</p>	<p>Maintain Cable Facilities</p>	<p>100</p>	<ul style="list-style-type: none"> • <Than (1) error per 100 cable markings. • <Than (2 linier ft.) tolerance from actual cable plant. • Must maintain any and all cable infrastructure as as-built drawings. • Excavators are not to begin until all underground utilities have been marked including those that might be maintained by Miss Utility. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • All cable marking requests must be logged and accomplished within 72 hrs of request. • All emergency cable marking requests must be accomplished within 4 hrs. Emergency situations are defined as “a sudden or 	

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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<p>unexpected occurrence involving a clear and immediate danger, demanding immediate action to prevent or mitigate loss of, or damage to life, health, property or essential public services.”</p> <ul style="list-style-type: none"> • Damaged facilities due to mis-marked cables must be repaired or replaced within 8 hrs. 	
Junction Boxes	Maintain Junction Boxes	100	<ul style="list-style-type: none"> • All junction or pull boxes shall be free from damage or missing parts. • Boxes, frames, and covers shall be watertight except for approved weep holes. • Must maintain any and all junction boxes infrastructure as as-built drawings. • Covers shall be fitted with gaskets and secured with approved securing screws. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • All cable junction boxes and or pull boxes must be repaired within 7 days discovery or notification. 	
Signs (static) - Overhead and Bridge Mounted	Structurally Sound Meets Reflectivity standards Free of Damage	90	<ul style="list-style-type: none"> • Meets current reflectivity standards (Type VIII sheeting or better), as updated (replacements). • Reflective at 120' day or night. • Surface clean & legible. • <10% Damage to surface of sign (scratches, dents, bullet holes, graffiti, etc). • No damage or missing parts. • Structure & support areas kept free of dirt & debris... (clean & flush). • Lifecycle Maintenance Plan shall be used for other maintenance needs. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged sign structures shall be mitigated immediately upon notification or discovery. • Damaged sign structures shall be repaired within 60 days of notification or discovery. • Damaged Regulatory/Warning signs shall be mitigated immediately upon notification or discovery. 	Each

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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> • Damaged Regulatory/Warning signs shall be repaired or replaced within 2 days of notification or discovery. • Damaged lane use informational signs shall be repaired or replaced within 10 days of notification or discovery. • All other signs shall be repaired or replaced within 30 days of notification or discovery. 	
Pavement Markings	Present Reflective	90	<ul style="list-style-type: none"> • <10% damaged or missing due to incidents, patching operations, or snow removal operations. • <10% covered by debris. • All markings to be VDOT approved durable, high quality materials per specifications. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damage to pavement markings shall be corrected within 5 business days unless adverse winter conditions exist. 	LFT
Pavement Markers (Raised & Recessed)	Present Reflective	90	<ul style="list-style-type: none"> • <30% missing or damaged within a tenth mile section. • Meets reflectivity standards. • Missing pavement marker lenses shall be repaired or replaced. <p>Timeliness Requirement</p> <ul style="list-style-type: none"> • Pavement markers that present a hazard shall be removed immediately upon notification, discovery or inspection. • Inspections will be conducted every 30 days and within 48 hours after every weather event that requires the use of snow plows. • Units will be repaired or replaced within 10 days. 	Each
Pavement Messages	Present Reflective	90	<ul style="list-style-type: none"> • <10% damaged. • <10% covered by debris. • Meets reflectivity standards. • All markings to be VDOT approved, and must be durable and high quality materials. 	Each
Lighting - Roadway	Operational Structurally sound	90	<ul style="list-style-type: none"> • Conventional Lighting (single bulb structure): Working at all times. • High Mast Lighting: >75% of bulbs per structure working at all times, during functional conditions. 	Each

**Attachment to Exhibit N – Technical Requirements
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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> • No damaged or missing parts. • Lifecycle Maintenance Plan shall be used for other maintenance needs. • Daytime burning lamps and circuits shall be repaired immediately upon discovery or notification. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged or non-functional lamps shall be repaired or replaced within 7 days of notification or discovery. • Damaged or non-functional structures shall be repaired or replaced within 7 days of notification or discovery. • Daytime burning lamps and circuits shall be repaired within 24 hrs. of notification or discovery. 	
Lighting – Sign	Operational Structurally sound	90	<ul style="list-style-type: none"> • No damaged or missing parts. • Lifecycle Maintenance Plan shall be used. • 90% of lamps shall be working properly at all times, per structure, during functional conditions. • Daytime burning lamps and circuits shall be repaired immediately upon discovery or notification. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged or non-functional lamps shall be repaired or replaced within 7 days of notification or discovery. • Damaged or non-functional structures shall be repaired or replaced within 7 days of notification or discovery. • Daytime burning lamps and circuits shall be repaired within 8 hrs. of notification or discovery. 	Each
Lighting - Under Deck or Tunnel	Operational Safe	90	<ul style="list-style-type: none"> • No damaged or missing parts. • Lifecycle Maintenance Plan shall be used. • Daytime burning lamps and circuits shall be repaired immediately upon discovery or notification. • 90% of lamps shall be working properly at all times, per structure, during functional conditions. <p>Timeliness Requirement:</p>	Each

**Attachment to Exhibit N – Technical Requirements
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ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> • Damaged or non-functional lamps shall be repaired or replaced within 7 days of notification or discovery. • Damaged or non-functional structures shall be repaired or replaced within 7 days of notification or discovery. • Daytime burning lamps and circuits shall be repaired within 8 hrs. of notification or discovery. 	
Lights – Warning, Bridge Mounted Navigation, Anti-Collision	Operational Structurally sound	100	<ul style="list-style-type: none"> • Functional at all times. • No damaged or missing parts. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Repair or replace as per Coast Guard requirements after notification or discovery. 	Each
Guardrail	Functional Undamaged	100	<ul style="list-style-type: none"> • No damage or rust that affects the structural integrity, no missing damaged post. • No loose or missing parts. • No cables loose or improperly secured. • No graffiti. • Meets NCHRP 350 standards. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Non-functional guardrail shall be mitigated immediately upon notification or discovery. • Non-functional guardrail shall be repaired or replaced permanently within 3 days of notification or discovery. • Damaged but functional guardrail shall be repaired or replaced within 7 days of notification or discovery. 	LFT
Impact Attenuators	Functional Undamaged	100	<ul style="list-style-type: none"> • No damaged or missing parts. • Properly maintained. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged attenuators shall be mitigated and area protected immediately upon notification or discovery. • Damaged attenuators shall be repaired within 7 days of notification or discovery. 	Each
Object Markers &	Present	90	<ul style="list-style-type: none"> • <10% missing or damaged parts. • Post mounted delineator height shall be 4 feet (+/-) 6 inches to 	Each

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
Delineators	Reflective Functional		<p>achieve uniform appearance) mileage markers are at least 60" high to achieve uniform appearance.</p> <ul style="list-style-type: none"> • Meets reflectivity standards. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged object markers & delineators shall be repaired or replaced within 7 days of notification or discovery. 	
Glare Foils	Present Functional	90	<ul style="list-style-type: none"> • <10% missing or damaged. • Properly mounted. • Uniform in appearance. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Damaged glare foils shall be repaired or replaced within 14days of notification or discovery. 	Each
ROADWAY & SHOULDER ASSET GROUP				
Asphalt Surface	Safe Durable Smooth	95	<ul style="list-style-type: none"> • No potholes. • Patches <1/2" higher or lower than surrounding pavement. • No pavement obstructions that present a safety hazard. <p>Timeliness Requirement</p> <ul style="list-style-type: none"> • Temporary repairs to potholes 6" x 6" x 1 1/2" or equivalent deep or larger shall be repaired immediately upon notification or discovery. All others within 2 days of notification or discovery. • Permanent repairs to potholes/ pavement failures shall be completed within 30 days of notification or discovery during seasons when asphalt plants are operating or within 30 days of asphalt plants opening for the season with a product listed on the VDOT approved patching material list. • Pavement obstructions that present a safety hazard shall be mitigated immediately. 	Sq. Ft
Paved Shoulders	Safe	90	<ul style="list-style-type: none"> • No potholes. • <105 linear feet edge drop-off high or low >1 1/2". 	Sq. Ft.

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
and Rumble Strips (Asphalt)	Smooth Functional		<ul style="list-style-type: none"> • <105 linear feet separation >1/2" wide. • No false ditch or build up on shoulder that causes water to stand on shoulder or drain onto the travel lanes. • <10% of rumble strips needs to be sealed. • No accumulated shoulder debris that will pose a safety hazard. • <20 items (greater than the size of a standard brick) per 1/10th mile section. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Temporary repairs to potholes >6" X 6" X 1 1/2" or equivalent deep shall be completed within 2 days of notification or discovery. • Permanent repairs to potholes shall be completed within 30 days of notification or discovery during seasons when asphalt plants are operating or within 30 days of asphalt plants opening for the season with a product listed on the VDOT approved patching material list. • Concessionaire shall respond to locations of excessive litter within 48 hours upon notification or discovery. 	
Unpaved Shoulders	Safe Smooth	90	<ul style="list-style-type: none"> • No potholes. • <105 linear feet edge drop off high or low >1 1/2". • No false ditch or build up on shoulder that causes water to stand on shoulder or drain onto the travel lanes. • No erosion >2" deep. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • All potholes shall be repaired within 7 days of notification or discovery with a product listed on the VDOT approved patching material list. • Erosion or drop offs >2" deep shall be repaired within 7 days of notification or discovery. 	Sq. Ft
Concrete Surface	SafeDurableSmooth	95	<ul style="list-style-type: none"> • No potholes. • <10% of surface area has cracks >1/4" wide. • <25% surface area has spalling >1" deep. • <25% of joint material missing No silt, debris, or grass growing in joint. • No pavement obstructions that present a safety hazard. 	Sq. Ft

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Temporary repairs to potholes 6" x 6" x 1 ½" or equivalent deep or larger shall be repaired immediately upon notification. All others within 2 days. • Permanent repairs to potholes/ pavement failures shall be completed within 30 days of notification with a product listed on the VDOT approved concrete patching material list. • Pavement obstructions that present a safety hazard shall be mitigated immediately. 	
BRIDGE ASSET GROUP				
Deck	Safe Structurally Sound Free of Dirt/ Debris	90	<ul style="list-style-type: none"> • Perform all routine/ordinary maintenance including sweeping, washing and cleaning. • No potholes. • ≤10% surface area spalling <1" deep. • Temporary patches ≤ ½" higher or lower than surrounding concrete deck surface. • No damaged or missing bridge railings. Railings are intact and connections are tight. • Drains/scuppers open and functional. • The deck is free of foreign material (grass, stones, limbs, trash, etc.). • Joints are clean, intact, and joint material is present and functioning as designed. • Drainage system (drains, scuppers, trough, etc) is clean and functioning as designed. • Lifecycle Maintenance Plan shall be reference for other routine maintenance and minor repair needs. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Temporary repairs to potholes 6" x 6" x 1 ½" or equivalent deep or larger shall be repaired immediately upon notification or discovery. All others within 2 days of notification or discovery. • Permanent repairs to potholes shall be completed within 30 days of notification or discovery and flush with surrounding surface. 	Sq. Ft

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
			<ul style="list-style-type: none"> Damaged/ missing bridge railing shall be mitigated immediately upon notification or discovery. Damaged/ missing railing shall be repaired or replaced within 30 days. 	
Superstructure (Includes Parapet Walls)	Structurally Sound Free of Debris	90	<ul style="list-style-type: none"> Perform all routine/ordinary maintenance including sweeping, washing, clearing of all obstructions. No spalling >1" deep. All structural steel and bearing assemblies will be clean and free of debris. No damaged or missing parts. Bridge components are free of damaging vegetation. Lifecycle Maintenance Plan shall be reference for other routine maintenance and minor repair needs. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Clean annually. 	Sq. Ft
Substructure	Structurally Sound Free of debris	90	<ul style="list-style-type: none"> Seats & Pier Caps clean and free of debris. Lifecycle Maintenance Plan shall be reference for other routine maintenance and minor repair needs. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Clean every 24 months. 	Sq. Ft
Slope Protection	Structurally Sound Minimal Erosion	90	<ul style="list-style-type: none"> No trend or pattern of erosion > 2" deep. No settlement >2". No damaging vegetation. <p>Timeliness Requirement:</p> <p>Repair within 30 days of notification or discovery.</p>	Sq. Ft
Weep Holes	Functional	90	<ul style="list-style-type: none"> ≥90% of diameter opens. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> Repair within 30 days of notification or discovery. 	Each
SERVICES GROUP				
Incident/Emergency Response	Timely Efficient	100	<ul style="list-style-type: none"> The Concessionaire shall provide equipment and labor resources necessary for Incident Management Operations for 24 hours a day & 7 days a week. 	Each

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
As it relates to the HOT Lanes and Subject to Tech Requirements 4.4 and Joint operating and Maintenance Protocol.	Safe Effective		<ul style="list-style-type: none"> • The Concessionaire after arriving on site shall report to the HOT Operations Center, provide and support appropriate resources to handle any and all traffic control needs to insure the safety of the incident scene and traveling public. • The HOT Operations Center shall provide timely notification of arrival and departures covering all incidents to the Smart Traffic Center. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • On site response during normal business hours of 05:00 to 19:00 hours (considered normal business hours) shall be no greater than 60 minutes, once notification or discovery of the incident. • On site response during the hours of 19:00 to 05:00 hours (after normal business hours) shall be no greater than 120 minutes once notification or discovery of the incident. • Temporary lane closures shall be installed immediately or as directed by HOT Operations Center. • Traffic detours and diversions, if needed, shall be installed within 120 minutes after being directed by HOT Operations Center. Permanent lane closures if needed shall be installed within 120 minutes after being directed by HOT Operations Center. 	
Customer Response As it relates to the HOT Lanes and Subject to Tech Requirements 4.4 and Joint operating and Maintenance Protocol	Timely Efficient Effective Productive	100	<ul style="list-style-type: none"> • All customer concerns/ requests relating to maintenance shall be resolved to the Concessionaire's and Department's satisfaction. <p>Timeliness Requirement:</p> <ul style="list-style-type: none"> • Contact the Call Center and the Program & Contract Management Team within 12 hrs. following the initial customer inquiry, if the request has been provided by the Departments. Call Center and the Program & Contract Management Team • Work resulting from request shall be scheduled within 2 days of the initial customer contact or advice from the Department. • Follow-up contact with Call Center and customer within 3 days of the completion of work. 	Each
Severe Weather,	Safe	100	<ul style="list-style-type: none"> • During Snow/Ice/Freezing Rain events, all travel lanes, turn lanes, intersections and interchanges shall be kept free of 	Each

**Attachment to Exhibit N – Technical Requirements
Attachment 4.5**

ASSET	OUTCOME	TARGET (%)	TOLERANCE & CRITERIA	UOM
Snow/Freezing Rain & Ice Removal	Effective Efficient		<p>snow, freezing rain and ice so that traffic can proceed in a safe and orderly manner without service delay except in periods of extreme heavy falling snow or drifting snow.</p> <p>Timeliness Requirements :</p> <ul style="list-style-type: none"> • All travel surface areas shall be treated within ½ hour of precipitation commencing and be free of snow, ice or frozen precipitation within 2 hours after the precipitation stops. • The following timeframes are for removal of precipitation from non-travel surface areas after the cessation of the weather event: (included but not limited to shoulders, gore areas, crossovers): • 0"-4" accumulation (including ice and freezing rain)-within 8 hours. • >4"-12" accumulation- Within 12 hours ** • >12"-18" accumulation- Within 24 hours** • >18" accumulation- Within 48 hours ** <p>** The contractor shall remove piles, mounds, windrows of snow and ice from all toll plazas 24 hours after the winter event and after all other contract criteria has been met.</p>	
Roadway Sweeping	Neat, Clean appearance Free of Debris	90	<ul style="list-style-type: none"> • <1/2" Debris (sand, gravel, dirt) at barrier walls, retaining walls, sidewalks, or curb and gutter. • Concessionaire to provide schedule of planned sweeping operations. <p>Timeliness Requirements:</p> <ul style="list-style-type: none"> • Sweeping shall be performed every 4 months and spot sweeping shall be performed as necessary. 	Each
Graffiti Removal	None present	90	<ul style="list-style-type: none"> • Concessionaire is to remove all graffiti. <p>Timeliness Requirements:</p> <ul style="list-style-type: none"> • Graffiti to be removed within 48 hours from notification or discovery. • Graffiti hit pictures are to be taken for each site and shared with law enforcement as requested. 	Each

ATTACHMENT 5 – CIVIL RIGHTS FORMS

ATTACHMENT 5

Required Forms – Attachment 5:

(See attached documents)

The forms shall be modified as necessary to be consistent with the requirements of Section 11.03 of the ARCA and Section 5 of the Technical Requirements.

- FHWA 1273*
- Executive Order 11246* (Notice Of Requirement For Affirmative Action To Ensure Equal Employment Opportunity)
- Predetermined Minimum Wages for the Project
- PPTA - Design-Build Amendment to Special Provision for Section 110.04 of the Road and Bridge Specifications (Incorporated below)
- Form C-111 (Minimum DBE Requirements)
- Form C-112 (Certification Of Binding Agreement)
- Form C-48 (Subcontractor/Supplier Solicitation And Utilization Form)
- Form C-49 (DBE Good Faith Efforts Documentation)
- Special Provision Copied Note for Section 518 of the Road and Bridge Specifications
- Form C-63 (DBE Activity Report)
- Department's Construction Directive Memorandum CD-2007-6
- Form C-64 (Company Employment)
- Letter Designating EEO Officer
- Semi-annual Minutes of an EEO Meeting
- Form C-56 (Statement of Compliance)
- Form C-57 (Project Employment)
- Form C-28 (Basic Hourly Rates paid by Contractor)
- Form C-65 (Trainee Enrollment Form – OJT Training)
- Form C-67 (weekly trainee report).

Attachment to Exhibit N – Technical Requirements
Attachment 5: Amendment to Special Provision for 110.04

PPTA DESIGN-BUILD AMENDMENT

To

Special Provision for Section 110.04 of the Road and Bridge Specifications

These Special Provision amendments supersede the Special Provisions for section 110.04 of the Road and bridge Specifications in its entirety and shall be read in conjunction with the requirements of Section 11.03 of the ARCA.

DISADVANTAGED BUSINESS ENTERPRISES (DBE) and SMALL, WOMEN and MINORITY BUSINESSES (SWaM):

The Concessionaire, its agents, employees, assigns or successors, and any person, firm or agency of whatever nature with whom it may contract or make any agreement, shall comply with the provisions of 49 CFR, Part 26, as amended, which is hereby made part of this Contract by reference, and support Executive Order 33 (2006). The Concessionaire shall take all necessary steps in accordance with 49 CFR, Part 26, as amended, and support Executive Order 33 (2006) to ensure that DBEs have equal opportunity to compete for and perform on contracts and subcontracts under this Contract.

Special Provision for Section 110.04 of the Virginia Department of Transportation Road and Bridge Specifications contained in this Contract is amended:

Where the term “Contractor” or “Bidder” are used, it is intended to refer to “Concessionaire”.

Where the term “bid item” is used, it is intended to refer to detailed item or task descriptions designated to be performed by DBE firms.

Miscellaneous DBE Program Requirements.

In accordance with 49 CFR Part 26 and the Department’s DBE Program requirements, the Concessionaire, for itself and for its subcontractors and suppliers, whether certified DBE firms or not, shall commit to complying fully with the auditing, record keeping, confidentiality, cooperation, and anti-intimidation or retaliation provisions contained in those federal and state DBE Program regulations. By accepting and executing the Agreement, the Concessionaire agrees to assume these contractual obligations and to bind the Concessionaire’s subcontractors contractually to the same at the Concessionaire’s expense.

DBE Certification

The only DBE firms eligible to work on a federal-aid contract for DBE contract goal credit are firms certified as Disadvantaged Business Enterprises by the Department of Minority Business Enterprises (DMBE) or the Department in accordance with federal and the Department’s guidelines. A directory listing of certified DBE firms can be obtained from the DMBE Internet website at www.dmb.state.va.us.

SWaM Certification

The only firms eligible to work on this contract for SWaM contract goal credit are firms certified as Small, Women and Minority Business Enterprises by the Department of Minority Business Enterprises (DMBE) in accordance with the Governor’s Executive

Attachment to Exhibit N – Technical Requirements
Attachment 5: Amendment to Special Provision for 110.04

Order or the Department's guidelines. A directory listing of certified SWaM firms can be obtained from the DMBE Internet website at www.dmb.state.va.us. SWaM vendors cannot be substituted as DBE firms to meet this contract's DBE contract goal.

DBE Program-related Certifications Made by Contractors.

By entering into the Agreement the Concessionaire certifies to each of the following DBE Program-related conditions and assurances:

- (1) That the management and officers of its firm agree to comply with the project construction and administration obligations of the USDOT DBE Program requirements and regulations of 49 CFR Part 26 as amended, and VDOT's Road and Bridge Specifications, as amended, and DBE Program requirements and regulations.
- (2) Under penalty of perjury and other applicable penal law that it shall comply fully with the DBE Program requirements, and shall comply fully with these requirements in the award and execution of the Agreement.
- (3) To ensure that certified DBE firms will be given full and fair opportunity to participate in the performance of the contract. The Concessionaire certifies that all reasonable steps were, and will be, taken to ensure that DBE firms had and will have an opportunity to compete for and perform work on the contract. The Concessionaire further certifies that the Concessionaire shall not discriminate on the basis of race, color, age, national origin, or sex in the performance of the contract or in the award of any subcontract.
- (4) Good faith efforts will be made to obtain certified DBE participation in the proposed contract at or above the goal for certified DBE participation established by VDOT .
- (5) The Concessionaire shall make good faith efforts to utilize certified DBE firms to perform work designated to be performed by certified DBEs at or above the goal specified in the Agreement. Further, the Concessionaire understands it shall not unilaterally terminate, substitute for, or replace any DBE firm that was designated on form C-111 in whole or in part with another DBE, any non-DBE firm, or with the Concessionaire's own forces or those of an affiliate of the Concessionaire without the prior written consent of VDOT as set out within the requirements of this provision.

The Concessionaire shall designate and make known to the Department a liaison officer who is assigned the responsibility of administering and promoting an active and inclusive DBE program as required by 49 CFR Part 26 for certified DBEs. The designation and identity of this officer needs be submitted only once by the Contractor during any twelve (12) month period. The Department will post such information for informational and administrative purposes at VDOT's Internet Civil Rights Division website.

- (6) The Concessionaire shall comply fully with all regulatory and contractual requirements of the USDOT DBE Program, and that each DBE firm participating in the contract shall fully perform the designated work items with the DBE's own forces and equipment under the DBE's direct supervision, control, and management. If VDOT determines that as the Contractor, a DBE or any other firm retained by the Contractor has failed to comply with federal or VDOT DBE Program regulations and/or their requirements on that contract, VDOT has the authority and discretion to determine the extent to which the DBE contract goals

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have not been met, and will assess against the Contractor any remedies available at law or provided in the contract in the event of such a contract breach.

- (7) In the event a bond surety takes over the completion of work after VDOT has terminated the prime Contractor, the surety shall be obligated to meet the same DBE contract goals as were required of the original prime Contractor in accordance with the requirements of this specification.

Designation of DBE Firms to Perform on Contract.

The Concessionaire certifies the DBE participation information submitted within the stated times thereafter is true, correct, and complete, and that the information provided includes the names of all certified DBE firms that will participate in the contract for the specified timeframe, the specific line item(s) that each listed certified DBE firm will perform, and the creditable dollar amounts of the participation of each listed certified DBE. The Concessionaire has committed to use each certified DBE firm listed for the specific work item shown to meet the contract goal for certified DBE participation.

The Concessionaire certifies on work it proposes to sublet, it will make good faith efforts to seek out and consider certified DBEs as potential subcontractors. The Concessionaire shall contact DBEs to solicit their interest, capability, and prices in sufficient time to allow them to respond effectively, and shall retain on file proper documentation to substantiate its good faith efforts.

Within thirty (30) days following the Closing Date, the Concessionaire shall submit the and Plan for goal achievement per task and/or bid item in accordance with Section 11.03 of the ARCA. Additionally, form C-111 shall be submitted to the District Civil Rights Office, listing DBE & SWaM firms committed for the first year of the contract to include task descriptions, known dollar values to be paid to firms, and the percent based on total contract value. At this time, the submittal will include forms C-112 for all DBE firms listed on form C-111 and copies of subcontract agreements and purchase orders of any DBE firms listed and involved in the manufacture, supply or site-of-work activities related to the physical construction portion of this Contract. The Concessionaire shall also submit at this time form C-48, designating ALL firms solicited to date for this Contract.

Prior to commencement of relevant work, any additional DBE or SWaM firms must be listed on an approved revised C-111 with an accompanying C-112 and subcontract agreement/purchase order, as appropriate, for DBE firms.

Wherein Concessionaire is unable to meet the designated goals, GFE documentation, included on form C-49 shall be submitted at this time pursuant to Section 11.03 of the ARCA.

When a DBE firm has been removed from eligibility as a certified DBE firm, the following actions will be taken:

- (1) When a Contractor has made a commitment to use a DBE firm that is not currently certified, thereby making the Contractor ineligible to receive DBE participation credit for work performed, and a subcontract has not been executed, the ineligible DBE firm does not count toward either the contract goal or overall goal. The Contractor shall meet the contract goal with a DBE firm that is eligible to receive DBE credit for work performed, or must demonstrate that it has made good faith efforts to do so.

When a Contractor has executed a subcontract with a certified DBE firm prior to official notification of the DBE firm's loss of eligibility, the Contractor may continue to use the firm on the contract and shall continue to receive DBE credit toward its DBE goal for the subcontractor's work.

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(2) If a certified DBE subcontractor is terminated, or fails, refuses, or is unable to complete the work on the contract for any reason, the Contractor must promptly request approval to substitute or replace that firm in accordance with this section of this Special Provision. The Contractor, as aforementioned in (1) above, shall notify VDOT in writing before terminating and/or replacing the certified DBE being used or represented to fulfill certified DBE contract obligations during the contract performance period. Written consent from the Department for terminating the performance of any DBE shall be granted only when the Contractor can demonstrate that the DBE is unable, unwilling, or ineligible to perform its obligations for which the Contractor sought credit toward the contract DBE goal. Such written consent by the Department to terminate any DBE shall concurrently constitute written consent to substitute or replace the terminated DBE with another DBE. Consent to terminate a certified DBE shall not be based on the Contractor's ability to negotiate a more advantageous contract with another subcontractor whether that subcontractor is, or is not, a certified DBE

(a) Contractor's Written Request to Terminate DBE

All Contractor requests to terminate, substitute, or replace a certified DBE shall be in writing, and shall include the following information:

- (i) The date the Contractor determined the certified DBE to be unwilling, unable, or ineligible to perform;
- (ii) The projected date that the Contractor shall require a substitution or replacement DBE to commence work if consent is granted to the request;
- (iii) A brief statement of facts describing and citing specific actions or inaction by the certified DBE giving rise to the Contractor's assertion that the certified DBE is unwilling, unable, or ineligible to perform;
- (iv) A brief statement of the affected certified DBE's capacity and ability to perform the work as determined by the Contractor;
- (v) A brief statement of facts regarding actions taken by the Contractor which are believed to constitute good faith efforts toward enabling the certified DBE to perform;
- (vi) The current percentage of work completed on each item or task by the certified DBE;
- (vii) The total dollar amount currently paid per item or task for work performed by the DBE;
- (viii) The total dollar amount per item or task remaining to be paid to the certified DBE for work completed, but for which the certified DBE has not received payment, and with which the Contractor has no dispute;
- (ix) The total dollar amount per item or task remaining to be paid to the certified DBE for work completed, but for which the certified DBE has not received payment, and over which the Contractor and/or the certified DBE have a dispute.

(b) Contractor's Written Notice to DBE of Pending Request to Terminate and Substitute With Another DBE

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The Contractor shall send a copy of the “request to terminate and substitute” letter to the affected committed DBE firm, in conjunction with submitting the request to the Engineer. The affected DBE firm may submit a response letter to the Department within two (2) working days of receiving the notice to terminate from the Contractor. The affected DBE firm shall explain its position concerning performance on the committed work. The Department will consider both the Contractor’s request and the DBE’s response and explanation before approving the Contractor’s termination and substitution request, or determining if any action should be taken against the Contractor.

If, after making its best efforts to deliver a copy of the “request to terminate and substitute” letter, the Contractor is unsuccessful in notifying the affected DBE firm, the Department will verify the affected, committed DBE firm is unable or unwilling to continue the contract, and the Department will immediately approve the Contractor’s request for a substitution.

(c) Proposed Substitution of Another Certified DBE

Upon termination of a certified DBE, the Contractor shall use reasonable good faith efforts to replace the terminated DBE. The termination of such certified DBE shall not relieve the Contractor of its obligations pursuant to this section, and the unpaid portion of the terminated certified DBE’s contract would not be counted toward the contract goal.

When a DBE substitution is necessary the Contractor shall submit in writing the name of another certified DBE firm, the proposed work to be performed by that firm, and the dollar amount of the work to replace the unfulfilled portion of the work of the originally committed DBE firm. The Contractor shall furnish all pertinent information including contract I.D. number, project number, item or task description, unit and quantity, unit price, and total price. In addition, the Contractor shall submit documentation for the requested substitute DBE as described in this section of this Special provision.

Should the Contractor be unable to commit the remaining required dollar value to the substitute DBE, the Contractor shall provide written evidence of good faith efforts made to obtain the substitute value requirement. The Department will review the quality, thoroughness, and intensity of those efforts. Efforts that are merely superficial or pro-forma will not be considered good faith efforts to meet the contract goal for certified DBE participation. The Contractor must document the steps taken that demonstrate good faith efforts to obtain participation as set forth in the **Good Faith Efforts Described** section of this Special Provision.

Good Faith Efforts Described.

Good faith efforts may be determined through use of the following list of the types of actions the Concessionaire may make to obtain DBE participation. This is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts of similar intent may be relevant in appropriate cases:

- (1) Soliciting through reasonable and available means, such as but not limited to, attendance at pre-bid meetings, advertising, and written notices to certified DBEs who have the capability to perform the work of the contract. Examples include: advertising in at least one daily newspaper of general circulation; phone contact with a completely documented telephone log, including the date and time called, contact person, or voice mail status; and

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internet contacts with supporting documentation, including dates advertised. The Concessionaire shall solicit this interest no less than five (5) business days before the subcontract bids are due so that the solicited DBEs have enough time to reasonably respond to the solicitation. The Concessionaire shall determine with certainty if the DBEs are interested by taking reasonable steps to follow up initial solicitations as evidenced by documenting such efforts on Department standard good faith documentation forms;

- (2) Selecting portions of the work to be performed by certified DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items completely or with its own forces;
- (3) Providing interested certified DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner, which will assist the DBEs in responding to a solicitation;
- (4) Negotiating for participation in good faith with interested DBEs;
 - (a) Evidence of such negotiation shall include the names, addresses, and telephone numbers of DBEs that were considered; dates DBEs were contacted, a description of the information provided regarding the plans, specifications, and requirements of the contract for the work selected for subcontracting; and, if insufficient DBE participation seems likely, evidence as to why additional agreements could not be reached for DBEs to perform the work;
 - (b) A Concessionaire using good business judgment should consider a number of factors in negotiating subcontractors, including certified DBE subcontractors, and should take a firm's price, qualifications, and capabilities, as well as contract goals, into consideration. However, the fact that there may be some additional costs involved in finding and using certified DBEs is not sufficient reason for a Concessionaire's failure to meet the contract goal for certified DBE participation, as long as such costs are reasonable and comparable to costs customarily appropriate to the type of work under consideration. Also, the ability or desire of a Concessionaire to perform the work of a contract with its own organization does not relieve the Concessionaire of the responsibility to make diligent good faith efforts. Concessionaire is not, however, required to accept higher quotes from DBEs if the price difference can be shown by the Concessionaire to be excessive, unreasonable; or greater than would normally be expected by industry standards;
- (5) A Concessionaire cannot reject a certified DBE as being unqualified without sound reasons based on a thorough investigation of the DBE's capabilities. The certified DBE's standing within its industry, membership in specific groups, organizations, associations and political or social affiliations, and union vs. non-union employee status are not legitimate causes for the rejection or non-solicitation of bids in the Concessionaire's efforts to meet the project goal for certified DBE participation;
- (6) Making efforts to assist interested certified DBEs in obtaining bonding, lines of credit, or insurance as required by VDOT or by the Contractor;
- (7) Making efforts to assist interested certified DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services subject to the restrictions contained in these provisions;

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- (8) Effectively using the services of appropriate personnel from VDOT and from the Virginia Department of Minority Business Enterprises, (VDMBE); available minority/women community or minority organizations; contractors' groups; local, state, and Federal minority/ women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and utilization of qualified DBEs.

DBE Participation for Contract Goal Credit

DBE participation on the contract will count toward meeting the DBE contract goal in accordance with the following criteria:

- (1) Cost-plus subcontracts will be considered to be in accordance with normal industry practice and will be allowed for credit.
- (2) The applicable percentage of the total dollar value of the contract or subcontract awarded to the DBE will be counted toward meeting the contract goal for certified DBE participation in accordance with the **Designation of DBE Firms to Perform on Contract** section of this Special Provision for the value of the work, goods, or services that are actually performed or provided by the certified DBE firm itself or subcontracted by the certified DBE to other certified DBE firms.
- (3) When a certified DBE performs work as a participant in a joint venture, the Contractor may count toward the DBE goal only that portion of the total dollar value of the contract equal to the distinctly defined portion of the contract work that the DBE has performed with the DBE's own forces or in accordance with the provisions of this Section. The Department shall be contacted in advance regarding any joint venture involving both a certified DBE firm and a non-DBE firm to coordinate Department review and approval of the joint venture's organizational structure and proposed operation where the Contractor seeks to claim the certified DBE's credit toward the DBE contract goal.

When a DBE subcontracts part of the work of the contract to another firm, the value of that subcontracted work may be counted toward the DBE contract goal only if the DBE's subcontractor at a lower tier is a VDOT certified DBE. Work that a certified DBE subcontracts to either a non-DBE firm or to a non-certified DBE firm will not count toward the DBE contract goal. The cost of supplies and equipment a DBE subcontractor purchases or leases from the prime Contractor or the prime's affiliated firms will not count toward the contract goal for certified participation.

- (4) The Contractor may count expenditures to a certified DBE subcontractor toward the DBE contract goal only if the certified DBE performs a Commercially Useful Function (CUF) on that contract.
- (5) A Contractor may not count the participation of a certified DBE subcontractor toward the Contractor's final compliance with the DBE contract goal obligations until the amount being counted has actually been paid to the certified DBE. A Contractor may count sixty (60) percent of its expenditures actually paid for materials and supplies obtained from a DBE certified by VDOT as a regular dealer, and one hundred (100) percent of such expenditures actually paid for materials and supplies obtained from a VDOT certified DBE manufacturer.
 - (a) For the purposes of this Special Provision, a regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the material, supplies, articles, or equipment required and used under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer,

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the certified DBE firm shall be an established business that regularly engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions will not be considered regular dealers.

- (b) A certified DBE firm may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business where it keeps such items in stock if the certified DBE both owns and operates distribution equipment for the products it sells and provides for the contract work. Any supplementation of a regular dealer's own distribution equipment shall be by a long-term lease agreement and not on an *ad hoc* or contract-by-contract basis to be eligible for credit to meet the DBE contract goal.
 - (c) If a certified DBE regular dealer is used for DBE contract goal credit, no additional credit will be given for hauling or delivery to the project site goods or materials sold by that certified DBE regular dealer. Those delivery costs shall be deemed included in the price charged for the goods or materials by the certified DBE regular dealer, who shall be responsible for their distribution.
 - (d) For the purposes of this Special Provision, a manufacturer will be defined as a firm that operates or maintains a factory or establishment that produces on the premises the material, supplies, articles, or equipment required under the contract and of the general character described by the project specifications. A manufacturer shall include firms that produce finished goods or products from raw or unfinished material, or purchase and substantially alter goods and materials to make them suitable for construction use before reselling them.
- (6) A Contractor may count toward the DBE contract goal the following expenditures to certified DBE firms that are not regular dealers or manufacturers for DBE program purposes:
- (a) The entire amount of fees or commissions charged by a certified DBE firm for providing a bona fide service, such as professional, technical, consultant or managerial services, or for providing bonds or insurance specifically required for the performance of the federal-aid contract, if the fee is reasonable and not excessive or greater than would normally be expected by industry standards for the same or similar services.
 - (b) The entire amount of that portion of the construction contract that is performed by the certified DBE's own forces and equipment under the DBE's supervision. This includes the cost of supplies and materials ordered and paid for by the certified DBE for contract work, including supplies purchased or equipment leased by the certified DBE, except supplies and equipment a certified DBE subcontractor purchases or leases from the prime Contractor or its affiliates.
- (7) A Contractor may count toward the DBE contract goal one hundred (100) percent of the fees paid to a certified DBE trucker or hauler for the delivery of material and supplies required on the project job site, but not for the cost of those materials or supplies themselves, provided that the trucking or hauling fee is determined by VDOT to be reasonable, as compared with fees customarily charged by non-DBE firms for similar services. Nor could a Contractor count costs for the removal or relocation of excess material from or on the job site when the certified DBE trucking company is not also the

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manufacturer of or a regular dealer in those materials and supplies. The certified DBE trucking firm shall also perform a CUF on the project and not operate merely as a pass through for the purposes of gaining credit toward the DBE contract goal.

- (8) The Contractor will receive DBE contract goal credit for the fees or commissions charged by and paid to a certified DBE broker who arranges or expedites sales, leases, or other project work or service arrangements provided that those fees are determined by VDOT to be reasonable and not excessive as compared with fees customarily charged by non-DBE firms for similar services. For the purposes of this Special Provision, a broker is defined as a person or firm that arranges for delivery of material, supplies, and equipment, or arranges project services but does not own or operate the delivery equipment necessary to transport materials, supplies, or equipment to or from a job site. A broker typically shall not purchase or pay for the material, supplies, or equipment, and if the broker does purchase or pay for those items those costs will be reimbursed in full. To receive DBE contract goal credit VDOT must determine that the DBE broker has performed a CUF in providing the contract work or service.

Performing a Commercially Useful Function (CUF)

No credit toward the DBE contract goal will be allowed for contract payments or expenditures to a certified DBE firm if that DBE firm does not perform a CUF on that contract. A DBE performs a CUF when the DBE is solely responsible for execution of a distinct element of the contract work and the DBE actually performs, manages, and supervises the work involved with the firm's own forces or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. To perform a CUF the certified DBE alone shall be responsible and bear the risk for the material and supplies used on the contract, selecting a supplier or dealer from those available, negotiating price, determining quality and quantity, ordering the material and supplies, installing those materials with the certified DBE's own forces and equipment, and paying for those materials and supplies. The amount the certified DBE firm is to be paid under the contract shall be commensurate with the work the certified DBE actually performs and the DBE credit claimed for the certified DBE's performance.

Monitoring CUF Performance

It shall be the Contractor's responsibility to ensure that all certified DBE firms selected for subcontract work on the contract, for which he seeks to claim credit toward the contract goal, perform a CUF. Further, the Contractor is responsible for and shall ensure that each certified DBE firm fully performs the certified DBE's designated tasks with the certified DBE's own forces and equipment under the certified DBE's own direct supervision and management or in accordance with the provisions of the **DBE Participation for Contract Goal Credit** section of this Special Provision. For the purposes of this provision the DBE's equipment will mean either equipment directly owned by the DBE as evidenced by title, bill of sale or other such documentation or leased by the DBE and over which the DBE has control as evidenced by the leasing agreement from a firm not owned in whole or part by the prime Contractor or an affiliate of the Contractor under this contract.

VDOT will monitor the Contractor's DBE involvement during the performance of the contract. However, VDOT is under no obligation to warn the Contractor that a DBE's participation will not count toward the goal.

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DBEs Must Perform a Useful and Necessary Role in Contract Completion

A DBE does not perform a commercially useful function if the DBE's role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation.

DBEs Must Perform The Contract Work With Their Own Workforces

If a DBE does not perform and exercise responsibility for at least thirty (30) percent of the total cost of the DBE's contract with the DBE's own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, VDOT will presume that the DBE is not performing a commercially useful function and such participation will not be counted toward the contract goal.

Factors Used to Determine if a DBE Trucking Firm is Performing a CUF

The following factors will be used to determine whether a DBE trucking company is performing a CUF:

- (1) To perform a CUF the DBE trucking firm shall be completely responsible for the management and supervision of the entire trucking operation for which the DBE is responsible by subcontract on a particular contract. There shall not be a contrived arrangement, including but not limited to any arrangement that would not customarily and legally exist under regular construction project subcontracting practices for the purpose of meeting the DBE contract goal;
- (2) The DBE must own and operate at least one fully licensed, insured, and operational truck used in the performance of the contract work. This does not include a supervisor's pickup truck or a similar vehicle that is not suitable for and customarily used in hauling the necessary materials or supplies;
- (3) The DBE receives full contract goal credit for the total reasonable amount the DBE is paid for the transportation services provided on the contract using trucks the DBE owns, insures, and operates using drivers that the DBE employs and manages;
- (4) The DBE may lease trucks from another certified DBE firm, including from an owner-operator who is certified as a DBE. The DBE firm that leases trucks from another certified DBE will receive credit for the total fair market value actually paid for transportation services the lessee certified DBE firm provides on the contract;
- (5) The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessors, not to exceed the value of transportation services provided by DBE-owned trucks on the contract. For additional participation by non-DBE lessors, the DBE will only receive credit for the fee or commission it receives as a result of the lease arrangement.

EXAMPLE: DBE Firm X uses two (2) of its own trucks on a contract. The firm leases two (2) trucks from DBE Firm Y and six (6) trucks from non-DBE Firm Z. DBE credit would be awarded for the total transportation services provided by DBE Firm X and DBE Firm Y, and may also be awarded for the total value of transportation services by four (4) of the six (6) trucks provided by non-DBE Firm

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Z. In all, full DBE credit would be allowed for the participation of eight (8) trucks. With respect to the other two trucks provided by non-DBE Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks that DBE Firm X receives as a result of the lease with non-DBE Firm Z.

- (6) For purposes of this section, the lease must indicate that the DBE firm leasing the truck has exclusive use of and control over the truck. This will not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, provided the lease gives the DBE absolute priority for and control over the use of the leased truck. Leased trucks must display the name and identification number of the DBE firm that has leased the truck at all times during the life of the lease.

VDOT Makes Final Determination On Whether a CUF Is Performed

VDOT has the final authority to determine whether a DBE firm has performed a CUF on a federal-aid contract. To determine whether a DBE is performing or has performed a CUF, VDOT will evaluate the amount of work subcontracted by that DBE firm or performed by other firms and the extent of the involvement of other firms' forces and equipment. Any DBE work performed by the Contractor or by employees or equipment of the Contractor may be subject to disallowance under the DBE Program, unless the independent validity and need for such an arrangement and work is demonstrated.

Verification of DBE Participation and Imposed Damages.

Within fourteen (14) after DBE subcontract execution for work involved in the manufacture, supply or site-of-work activities related to the physical construction portion of this Contract, the Contractor shall submit to the Department a fully executed subcontract agreement for each DBE used to claim credit in accordance with the requirements stated on Form C-112, executed by both parties stating the work to be performed, details or specifics concerning such work and the price which will be paid. Because of the commercial damage that the Contractor and its DBE subcontractor could suffer if their subcontract pricing, terms, and conditions were known to competitors, the Department staff shall treat subcontract agreements as proprietary Contractor trade secrets with regard to Freedom of Information Act requests. In lieu of subcontract agreements, purchase orders may be submitted for haulers, suppliers, and manufacturers. Such purchase orders must contain, as a minimum, the following information: authorized signatures of both parties; description of the scope of work to include contract item numbers, quantities, and prices; and required federal contract provisions.

The Contractor shall also furnish, and shall require each subcontractor to furnish, information relative to all DBE and SWaM involvement on the project during the life of the contract in which participation occurs and verification is available. The information shall be indicated on Form C-63. Failure to provide the forms to the Department by the quarterly due dates may result in delay of approval of the Contractor's progress estimate for payment. The names and certification numbers of DBE firms provided by the Contractor on the various forms indicated in this Special Provision shall be exactly as shown on the Department's latest list of certified DBEs. Signatures on all forms indicated herein shall be those of authorized representatives of the Contractor authorized by letter. If certified DBE firms are used which have not been previously documented and for which the Contractor now desires to claim credit toward the project goal, the Contractor shall be responsible for submitting necessary documentation in accordance with the procedures stipulated in this Special Provision to cover such work prior to the DBE beginning work.

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The Contractor shall submit to the Department its progress schedule as required by the ARCA that may include contractual milestones, i.e., monthly or VDOT requested updates. The Contractor shall include a narrative of applicable DBE activities relative to work activities of the Contractor's progress schedule, including the approximate start times and durations of all DBE participation to be claimed for credit that shall result in full achievement of the DBE goal required in the contract.

On contracts awarded on the basis of good faith efforts, narratives or other agreeable format of schedule information requirements and subsequent progress determination shall be based on the commitment information shown on the latest Form C-111 as compared with the appropriate Form C-63.

Within 14 days of the beginning of each Quarter Point of the Contract, the Concessionaire shall submit to the District Civil Rights Office revised form C-111, listing DBE & SWaM firms committed previously and any additional firms for the subsequent Quarter Points. The revised C-111 shall include task descriptions, known dollar values to be paid to firms, and reflect the percents based on the total contract value, along with an attached work plan indicating how the remaining goals are intended to be met. The form C-111 and work plan shall be accompanied by forms C-112 for all DBE firms listed on form C-111, along with copies of subcontract agreements and purchase orders of any DBE firms involved in the manufacture, supply or site-of-work activities related to the physical construction portion of this Contract. At this time prior to each Quarter Point, the Concessionaire shall also submit form C-48, designating ALL firms solicited during the previous Quarter for this Contract.

Prior to commencement of relevant work, any additional DBE or SWaM firms must be listed on an approved revised C-111 with an accompanying C-112 and subcontract agreement/purchase order, as appropriate, for DBE firms.

Wherein Concessionaire is unable to meet the designated goals, GFE documentation, included on form C-49 shall be submitted at this time pursuant to Section 11.03 of this Contract.

The Contractor shall obtain the prior approval of the Department for any assistance it may provide to the DBE beyond its existing resources in executing its commitment to the work in accordance with the requirements listed in the **Good Faith Efforts Described** section of this Special Provision. If the Contractor is aware of any assistance beyond a DBE's existing resources that the Contractor, or another subcontractor, may be contemplating or may deem necessary and that have not been previously approved, the Contractor shall submit a new or revised narrative statement for VDOT's approval prior to assistance being rendered.

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified timeframes, the Department will withhold payment of the monthly progress estimate until such time as the required submissions are received by VDOT. Where such failures to provide required submittals or documentation are repeated the Department will move to enjoin the Contractor and any prime contractual affiliates, as in the case of a joint venture, from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects until such submissions are received.

Documentation Required for Semi-final Payment.

On those projects nearing completion, the Contractor must submit Form C-63 marked "Semi-Final" within twenty (20) days after the submission of the last regular monthly progress estimate to the Engineer. The forms must include each certified DBE used on the contract work and the work performed by each certified DBE. The forms shall include

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the actual dollar amount paid to each certified DBE for the accepted creditable work on the contract and monies owed the certified DBE subcontractor. The forms shall be certified under penalty of perjury, or other applicable law, to be accurate and complete. VDOT will use this certification and other information available to determine applicable DBE credit allowed to date by VDOT and the extent to which the DBEs were fully paid for that work. The Contractor shall acknowledge by the act of filing the forms that the information is supplied to obtain payment regarding a federal participation contract. A letter of certification, signed by both the prime Contractor and appropriate certified DBEs, will accompany the forms, indicating the amount, including any retainage that remains to be paid to the certified DBE(s).

Documentation Required for Final Payment.

On those projects that are complete, the Contractor shall submit a final Form C-63 marked "Final" to the Engineer within thirty (30) days of final acceptance. The forms must include each certified DBE used on the contract and the work performed by each DBE. The forms shall include the actual dollar amount paid to each DBE for the creditable work on the contract and monies owed the DBE subcontractor. VDOT will use these forms and other information available to determine if the Contractor and DBEs have satisfied the DBE contract goal percentage specified in the contract and the extent to which the DBEs were paid for that work. The Contractor shall acknowledge by the act of signing and filing the forms that the information is supplied to obtain payment regarding a federal participation contract.

Prompt Payment Requirements.

The Contractor shall make prompt and full payment to the subcontractor(s) of any retainage held by the prime Contractor after the subcontractor's work is satisfactorily completed.

For purposes of this Special Provision, a subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented, and accepted as required by the contract documents by VDOT. When VDOT has made partial acceptance of a portion of the prime contract, the Department will consider the work of any subcontractor covered by that partial acceptance to be satisfactorily completed. Payment will be made in accordance with the requirements set out in the ARCA and Design-Build Contract.

Upon VDOT's payment of the subcontractor's portion of the work as shown on the monthly progress estimate and the receipt of payment by the Contractor for such work, the Contractor shall make compensation in full to the subcontractor for that portion of the work satisfactorily completed and accepted by the Department. For the purposes of this Special Provision, payment of the subcontractor's portion of the work shall mean the Contractor has issued payment in full, less agreed upon retainage, if any, to the subcontractor for that portion of the subcontractor's work that VDOT paid to the Contractor on the monthly progress estimate.

The Contractor shall make payment of the subcontractor's portion of the work within seven (7) days of the receipt of payment from VDOT in accordance with the requirements of the ARCA.

If the Contractor fails to make payment of the subcontractor's portion of the work within the timeframe specified herein, the subcontractor shall contact the Engineer and the Contractor's bonding company in writing.

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The Department will withhold payment of the Contractor's monthly progress estimates until the Contractor ensures that the subcontractors have been promptly paid for the work that they have performed successfully and for which the Department has accepted and paid the Contractor.

By accepting and executing this contract, the Contractor agrees to assume these contractual obligations, and to bind the Contractor's subcontractors contractually to those prompt payment requirements.

Nothing contained herein shall preclude the Contractor from withholding payment to the subcontractor in accordance with the terms of the subcontract in order to protect the Contractor from loss or cost of damage due to a breach of agreement by the subcontractor.

Data Collection

In accordance with 49 CFR Section 26.11, all firms bidding on prime contracts and bidding or quoting subcontracts on federal-aid projects shall provide the following information to the Contract Engineer annually.

- Firm name;
- Firm address;
- Firm's status as a DBE or non-DBE;
- The age of the firm; and
- The annual gross receipts of the firm.

The above information can be submitted by means of the Annual Gross Receipts Survey as required in the Prequalification/Certification application.

The Concessionaire shall complete and submit to the Department the Subcontractor/Supplier Solicitation and Utilization Form C-48 for each bid submitted within 60 days of the Financial Plan approval and within 14 days prior to each subsequent Quarter Point of the Contract. Failure to submit this form in the timeframe specified will be cause for withholding of the progress estimate.

Summary of Remedies Available to VDOT

Subject to the requirements of the ARCA, failure of the Contractor to comply with the requirements of this Special Provision for Section 110.04 of the Virginia Road and Bridge Specifications, as amended, shall be remedied in accordance with the following:

Disadvantaged Business Enterprise (DBE) Program Requirements.

All administrative remedies noted in this provision are automatic unless the Contractor exercises the right of dispute in accordance with the ARCA

DBE Program-related Certifications Made Concessionaire.

Where a contract exists and where the Contractor, a DBE or any other firm retained by the Contractor has failed to comply with federal or VDOT DBE Program regulations and/or their requirements on that contract, VDOT has the authority and discretion to determine the extent to which the DBE contract goals have not been

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met, and will assess against the Contractor any remedies available at law or provided in the contract in the event of such a contract breach.

Documentation and Administrative Reconsideration of Good Faith Efforts

Regardless of the DBE contract goal participation level proposed or the extent of good faith efforts shown, the Concessionaire shall timely and separately file completed and executed Forms C-111 with work plan and C-112 and good faith efforts as aforementioned or face potential sanctioning. If, after reconsideration, the Department determines the Concessionaire has failed to meet the requirements of the contract goal and has failed to make adequate good faith efforts to achieve the level of DBE participation as specified in the Contract, sanctioning will be imposed per this Contract and may be enjoined from bidding as a Prime Contractor or participating as a subcontractor on VDOT projects for a period of 90 days.

If sufficient documented evidence is presented to demonstrate that the Concessionaire made reasonable good faith efforts, the Department will reduce the DBE requirement to the actual commitment identified. However, such action will not relieve the Contractor of its responsibility for complying with the reduced DBE requirement during the life of the contract or any administrative sanctions as may be appropriate.

During the Contract

(SEE AGREEMENT)

Verification of DBE Participation and Imposed Damages for Non-compliance

If the Contractor fails to comply with correctly completing and submitting any of the required documentation requested by this provision within the specified timeframes, the Department may withhold payment of the monthly progress estimate in accordance with the ARCA until such time as the required submissions are received by VDOT. Where such failures to provide required submittals or documentation are repeated, the Department will move to enjoin the Contractor and any prime contractual affiliates, as in the case of a joint venture, from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects until such submissions are received.

Prompt Payment Requirements

The Department will withhold payment of the Contractor's monthly progress estimates until the Contractor ensures that the subcontractors have been promptly paid for the work that they have performed successfully, and for which the Department has accepted and paid the Contractor.

In addition to the remedies described heretofore in this provision VDOT also exercises its rights with respect to the following remedies:

Suspect Evidence of Criminal Behavior.

Failure of a bidder, Contractor, or subcontractor to comply with the Virginia Department of Transportation Road and Bridge Specifications and these Special Provisions wherein there appears to be evidence of criminal conduct shall be

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referred to the Attorney General for the Commonwealth of Virginia and/or the FHWA Inspector General for criminal investigation and, if warranted, prosecution.

Suspected DBE Fraud

In appropriate cases, VDOT will bring to the attention of the U. S. Department of Transportation (USDOT) any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g., referral to the Department of Justice for criminal prosecution, referral to the USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49 CFR Part 31.

Exhibit 102.05(b)

SF010AF-0702

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**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

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ATTACHMENTS

- A. Employment Preference for Appalachian Contracts (included in Appalachian contracts only)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendent and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

- Section I, paragraph 2;
- Section IV, paragraphs 1, 2, 3, 4, and 7;
- Section V, paragraphs 1 and 2a through 2g.

Division I Amendments

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

Division I Amendments

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

Division I Amendments

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

Division I Amendments

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

Division I Amendments

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. **Apprentices and Trainees (Programs of U.S. DOL) and Helpers:**

Division I Amendments

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to

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submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any

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other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project: **NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS**

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

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2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneously by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

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i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

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e The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of

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a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

Exhibit 102.05(c)

SF030AF-0702

Reissued July 9, 2002

VIRGINIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION FOR
**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals for female and minority participation, expressed in percentage terms of the Contractor's aggregate work force in each trade on all construction works in the covered area, are as follows:

Females- 6.9%
Minorities - See Attachment "A"

The goals are applicable to all the Contractor's construction work performed in the covered area, whether or not it is Federal or federally assisted. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications, set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established herein. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executives Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days the award of any construction subcontract in excess of \$10,000 at any tier for construction works under this contract. The notification shall list the name, address and telephone number of the subcontractor, employer identification number, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract. and the geographical area in which the contract is to be performed.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

1. As, used in this provision:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
 - d. "Minority" includes:

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- (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors and Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction Contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, shall assign two or more women to each construction project. The Contractor shall specifically ensure that all foreman, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites in such facilities.

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- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union, or if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper or annual report; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents and General Foremen prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including in any news media advertisement that the Contractor is "An Equal Opportunity Employer" for minority and female, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Directs its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of Contractor's workforce.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for such opportunities through appropriate training or other means.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Division I Amendments

- n. Ensure that all facilities and company activities are nonsegregated, except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. Goals for women have been established. However, the Contractor IS required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner, that is even though the Contractor has achieved its goals for women, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or nation origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from Its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director will proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate and make known to the Department a responsible official as the EEO Officer to monitor all employment related activity, to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors will not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

ATTACHMENT A

<u>Economic Area</u>	<u>Goal (Percent)</u>
Virginia:	
021 Roanoke-Lynchburg, VA	
SMSA Counties:	
4640 Lynchburg, VA	19.3
VA Amherst; VA Appomattox; VA Campbell; VA Lynchburg.	
6800 Roanoke, VA.....	10.2
VA Botetourt; VA Craig; VA Roanoke; VA Roanoke City; VA Salem	
Non-SMSA Counties.	12.0
VA Alleghany; VA Augusta; VA Bath; VA Bedford; VA Bland; VA Carroll;	
VA Floyd; VA Franklin; VA Giles; VA Grayson; VA Henry; VA Highland;	
VA Montgomery; VA Nelson; VA Patrick; VA Pittsylvania; VA Pulaski;	
VA Rockbridge; VA Rockingham; VA Wythe; VA Bedford City; VA Buena Vista;	
VA Clifton Forge; VA Covington; VA Danville; VA Galax; VA Harrisonburg;	
VA Lexington; VA Martinsville; VA Radford; VA Staunton; VA Waynesboro;	
WV Pendleton.	
022 Richmond, VA:	
SMSA Counties:	
6140 Petersburg - Colonial Heights - Hopewell, VA	30.6
VA Dinwiddie; VA Prince George; VA Colonial Heights; VA Hopewell;	
VA Petersburg.	
6760 Richmond, VA	24.9
VA Charles City; VA Chesterfield; VA Goochland, VA Hanover; VA	
Henrico; VA New Kent; VA Powhatan; VA Richmond.	
Non-SMSA Counties	27.9
VA Albermarle; VA Amelia; VA Brunswick; VA Buckingham, VA Caroline;	
VA Charlotte; VA Cumberland; VA Essex; VA Fluvanna; VA Greene; VA	
Greensville; VA Halifax; VA King and Queen; VA King William; VA	
Lancaster; VA Louisa; VA Lunenburg; VA Madison; VA Mecklenburg; VA	
Northumberland; VA Nottoway; VA Orange; VA Prince Edward; VA Richmond	
VA Sussex; VA Charlottesville; VA Emporia; VA South Boston	
023 Norfolk - Virginia Beach - Newport News VA:	
SMSA Counties:	
5680 Newport News- Hampton, VA	27.1
VA Gloucester; VA James City; VA York; VA Hampton; VA Newport	
News; VA Williamsburg.	
5720 Norfolk - Virginia Beach - Portsmouth, VA - NC.....	26.6
NC Currituck; VA Chesapeake; VA Norfolk; VA Portsmouth; VA	
Suffolk; VA Virginia Beach.	
Non-SMSA Counties	29.7
NC Bertie; NC Camden; NC Chowan; ,NC Gates; NC Hertford;	
NC Pasquotank; NC Perquimans; VA Isle of Wight; VA Matthews;	
VA Middlesex; VA Southampton; VA Surry; VA Franklin.	
Washington, DC:	
020 Washington, DC.	
SMSA Counties:	
8840 Washington, DC - MD - VA	28.0
DC District of Columbia; MD Charles; MD Montgomery MD Prince	
Georges; VA Arlington; VA Fairfax; VA Loudoun; VA Prince William	
VA Alexandria; VA Fairfax City; VA Falls Church.	
Non- SMSA Counties	25.2
MD Calvert; MD Frederick; MD St. Marys; MD Washington; VA Clarke;	

Division I Amendments

VA Culpeper; VA Fauquier; VA Frederick; VA King George; VA Page; VA Rappahannock; VA Shennandoah; VA Spottsylvania; VA Stafford; VA Warren; VA Westmoreland; VA Fredericksburg; VA Winchester WV Berkeley; WV Grant; WV Hampshire; WV Hardy; WV Jefferson; WV Morgan.

Tennessee:

052 Johnson City - Kingsport - Bristol, TN - VA

SMSA Counties:

3630 Johnson City - Kingsport -Bristol, TN-VA..... 2.6
TN Carter; TN HawkIns; TN Sullivan; TN Washington; VA Scott: VA Washington;VA Bristol.

Non-SMSA Counties 3.2

TN Greene; TN Johnson; VA Buchanan;VA Dickenson; Va Lee;
VA Russell; VA Smyth; VA Tazewell; VA Wise; VA Norton; WV McDowell;
WV Mercer.

Maryland

019 Baltimore MD:

Non-SMSA Counties 23.6

MD Caroline; MD Dorchester; MD Kent; MD Queen Annes; MD Somerset;
MD Talbot; MD Wicomico; MD Worchester; VA Accomack; VA Northampton.

GENERAL DECISION: VA20030020 12/01/2006 VA20

Date: December 1, 2006

General Decision Number: VA20030020 12/01/2006

Superseded General Decision Number: VA020020

State: Virginia

Construction Type: Highway

Counties: Alexandria*, Arlington, Clarke, Culpeper, Fairfax, Falls Church*, Fauquier, Fredericksburg*, King George, Loudoun, Manassas Park*, Manassas*, Prince William, Spotsylvania, Stafford and Warren Counties in Virginia.

*INDEPENDENT CITIES

HIGHWAY CONSTRUCTION PROJECTS (Excluding tunnels, building structures in rest area projects and railroad construction; bascule, suspension and spandrel arch bridges; bridges designed for commercial navigation; bridges involving marine construction; and other major bridges)

Modification Number	Publication Date
0	06/13/2003
1	01/16/2004
2	06/18/2004
3	11/12/2004
4	01/21/2005
5	05/06/2005
6	06/10/2005
7	11/11/2005
8	08/18/2006
9	10/06/2006
10	12/01/2006

* ELEC0026-001 11/06/2006

	Rates	Fringes
Electrician.....	\$ 32.45	11.32+a

a. PAID HOLIDAYS: New Year's Day, Martin Luther King Jr.'s Birthday, Inauguration Day, Memorial Day, Fourth of July, Labor Day, Veterans Day, Thanksgiving Day, the day after Thanksgiving and Christmas Day or days designated as legal holidays by the Federal Government.

IRON0201-003 05/01/2006

	Rates	Fringes
Ironworker, Reinforcing.....	\$ 23.45	12.08

* SUVA1999-001 01/29/1999

	Rates	Fringes
Asbestos Worker.....	\$ 9.83	
Blaster.....	\$ 11.33	
Carpenter		
Structure.....	\$ 11.56	
Concrete Finisher.....	\$ 12.84	
Deckhand.....	\$ 9.50	
Fence Erector.....	\$ 6.95	
Flagger.....	\$ 9.25	
Form Setter.....	\$ 10.92	
Guardrail erector.....	\$ 9.75	
Laborers:		
Asphalt Rakers.....	\$ 10.50	
Construction Workers I (Skilled Laborers).....	\$ 9.72	
Construction Workers II (Laborers).....	\$ 8.40	
Landscape Workers.....	\$ 8.39	
Pipelayers.....	\$ 9.17	
Power Tool Operators.....	\$ 10.06	
Mason		
Structure.....	\$ 8.65	
Painter, Bridge.....	\$ 11.47	
Painter.....	\$ 18.00	
Plumber.....	\$ 14.31	
Power equipment operators:		
Air Compressor Operators....	\$ 9.50	
Asphalt Distributor Operators.....	\$ 10.76	
Asphalt Paver Operators.....	\$ 11.97	
Backhoe Operators.....	\$ 11.72	
Bulldozer Operators, Utility.....	\$ 12.71	
Bulldozer Operators.....	\$ 11.93	
Concrete Finish Machine Operators, Utility.....	\$ 11.15	
Concrete Finish Machine/ Screed Operators (Bridge)....	\$ 13.00	
Concrete Paving Machine Operators.....	\$ 11.00	
Concrete Pump Operators.....	\$ 8.33	

Concrete Saw Operators.....	\$ 8.00
Crane, Derrick, Dragline Operators.....	\$ 14.76
Crusher Tender Operators....	\$ 10.35
Drill Operators.....	\$ 9.69
Excavator Operators.....	\$ 12.00
Front-End Loader Operators	
2 yds. & under.....	\$ 11.40
Over 2 yds.....	\$ 11.91
Fuel and Lubricant Service	
Truck Drivers.....	\$ 11.88
Gradall Operators.....	\$ 14.00
Grade Checkers.....	\$ 7.47
Hydro-Seeder Operators.....	\$ 10.78
Log Skidder Operators.....	\$ 15.00
Mechanics.....	\$ 13.75
Mobile Mixer Operator.....	\$ 10.71
Motor Grader Operators	
Fine Grade.....	\$ 12.90
Rough Grade.....	\$ 12.55
Oiler Greaser.....	\$ 10.00
Pavement Marker Operators...\$	9.00
Pavement Marking Truck Operators.....	\$ 8.50
Pavement Planing	
Groundman.....	\$ 10.00
Operators.....	\$ 10.00
Pipe Boring/Jacking	
Machine Operators.....	\$ 9.75
Plant Operators.....	\$ 10.00
Roller Operators	
Finish.....	\$ 10.86
Rough.....	\$ 9.59
Scraper Pan Operators.....	\$ 10.41
Shot Blast Machine Operators.....	\$ 8.13
Shovel Operators.....	\$ 10.09
Slip-Form Paver Operators...\$	9.00
Slurry Seal Paver	
Machine Operators.....	\$ 9.67
Truck Drivers.....	\$ 8.63
Stabilizer Operators.....	\$ 8.32
Stone Spreader Operators....\$	10.13
Subgrade Machine Operators..\$	8.80
Tractor Operators	
Crawlers.....	\$ 8.02
Utility.....	\$ 9.96
Transit Mix Truck Drivers...\$	9.75
Trenching Machine Operators.\$	10.00
Vacuum Machine Operators....\$	10.20
Sheet Metal Worker.....	\$ 11.50
Sign Erector.....	\$ 15.00
Structural workers.....	\$ 17.08

Truck drivers:

Heavy Duty	
Over 7 c.y.....	\$ 9.46
Under 7 c.y.....	\$ 8.38
Multi-Rear Axle.....	\$ 10.17
Single Rear Axle.....	\$ 9.08
Tandem Rear Axle.....	\$ 9.25

Waterproofer.....\$ 7.28

Welder.....\$ 12.10

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

END OF GENERAL DECISION.

EEO REQUIREMENTS: FEDERAL-AID WITH TRAINEES
CONTRACTOR:
PROJECT NO:
FHWA NO:

I. INFORMATION AND FORMS DUE AT THE FIRST PRECONSTRUCTION CONFERENCE OF THE CALENDAR YEAR FOR THE CONTRACTOR:

1. Letter(s) designating the Company EEO Officer and DBE Liaison Officer
ANNUAL SUBMITTAL SEPTEMBER *
2. Minutes of EEO Meeting /SEMI-ANNUAL SUBMITTAL SEPTEMBER/MARCH
3. Form C-64 – SEMI-ANNUAL SUBMITTAL SEPTEMBER/MARCH *

Item (1) is to be submitted only once during a twelve-month period. Items (2) and (3) are required every six months, with the initial submittal at the pre-construction conference and every six months thereafter, as long as the Contractor has an active contract in that district which is covered by the original submittal. These forms should be submitted to: CIVIL RIGHTS SECTION, 14685 AVION PARKWAY, CHANTILLY, VIRGINIA 20151

Subcontractors who have not previously submitted this information should attach it to the first sublet request of the current calendar year in each district in which they are performing work. Updates should be submitted as required throughout the duration of the contract covered by the original submittal.

TWO-Bulletin Boards are required containing the following: EEO is the Law poster; Contractor's EEO Policy & EEO Officer; Predetermined Wage Rate Sheet; and posters labeled C-58, C59.

THE INFORMATION REQUESTED BELOW SHOULD BE SENT TO THE RESIDENCY UNLESS INSTRUCTED OTHERWISE:

II. INFORMATION & FORMS DUE PRIOR TO 1ST. ESTIMATE:

Company Payrolls must be submitted weekly and shall include the name, address, Employee number, Job Classification, race and sex. If the race and sex cannot be incorporated into the regular payrolls an addendum sheet will be acceptable. All approved subcontractors payrolls must be forwarded through the Prime Contractor to the project inspector and must bear certification that the Prime Contractor has reviewed them. *

III. Form C-57 - Total Project Employment:

Due the first 3 Months of construction during which work is performed covering the last full pay period of the month (Prime and Subs, and on-site haulers). Form C-57 is to be submitted within 3 weeks after the reporting period. Failure to do so may result in delay of approval of monthly estimate. This form is also due annually (July) covering the last full pay period in July in which the prime and subs actively worked. (Could be the 1st full week in July). Summarizes New Hires for current Month indicating minorities, non-minorities and women by job categories (use additional forms if needed) see page 2 for instructions. *

IV. Form C-28 - Hourly Wage Rates

Due by the date of the second estimate and then every 90-calendar days for the duration of the project. (Prime submits C-28 compiling data from their own workforce as well as all subs and on-site haulers).

DBE CREDIT REQUIREMENTS:

V. Forms C-111 & C112

1. The Contractor may submit a revised C-111, if a DBE is subcontracted to work and is not on the original C-111. This must be done prior to the DBE beginning work, if credit is sought.
2. Form C-112, Evidence of Binding Agreement
3. The prime contractor will not receive DBE participation credit until the DBE(s) have received full payment.

VI. DBE Progress Schedule - Submitted within 45 days after the preconstruction meeting as required by Section 103.06. Include a narrative of applicable DBE activities relative to work activities of prime's contract schedule, approximate start times and durations of DBE participation to be claimed for credit.

VII. Form C-63 - Disadvantaged Business Enterprise Activity Report

The C-63 report is required for submission to VDOT on a quarterly basis. Please refer to the C-63 for detailed instructions on completion of the form. Form C-63 is also to include payments to SWAMs.

VIII. SUBCONTRACT AGREEMENTS

Copies of Subcontract Agreements between the Prime, DBE and third party are to be submitted to this office. (All agreements must include required Contract Provisions Federal-Aid Construction Contract and Executive Order 11246, which are incorporated in every federal-aid contract). DBE Subcontract Agreements are to be submitted no later than seven (7) working days prior to the Notice to Proceed. If this information is not

submitted within the specified time frame, the Contractor and any aforementioned affiliates may be enjoined from bidding until the District receives the submissions.

XI. TRAINING:

Form C-65 - Trainee Enrollment : Supplied to contractor at time of enrollment

Form C-67 - Weekly Trainee Report: Due every week the Trainee works

* ALSO REQUIRED OF THE SUBCONTRACTOR

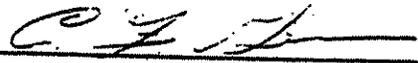
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DIVISION MEMORANDUM

187
JOINT MEMORANDUM ^{EEO}

GENERAL SUBJECT: CONTRACT EEO AND DBE INFORMATION NUMBER: CD-93-11 ⁹⁹⁸

SPECIFIC SUBJECT: REVISIONS TO SUBMITTAL FREQUENCY DATE: JUNE 11, 1993


C. F. GEE
CONSTRUCTION ENGINEER


M. J. WALKER JR.
DEPARTMENT EEO MANAGER

DIRECTED TO - DISTRICT ADMINISTRATORS

The submittal frequency of some contract EEO information has been revised as a result of paperwork reduction assessments. Additional reviews are underway; however, this policy will govern until other recommendations have been considered and finalized. While typically reducing the frequency with which information is required, this procedure still provides for receipt of essential EEO information from contractors as follows:

- (1) Letter(s) designating the company's EEO and DBE Liaison Officer(s).
- (2) Company EEO Policy.
- (3) Minutes of EEO Meetings.
- (4) Form C-64.

Items (1) and (2) need be submitted only once during any twelve month period, and are due at the preconstruction conference for the first contract during that period in each district in which the Contractor has been the successful bidder.

Items (3) and (4) are required every six months, and are due as noted above and every six months thereafter, as long as the Contractor has an active contract in that district which is covered by the original submittal.

Firms performing subcontract work, who have not previously submitted the required information, must attach it to the first sublet request for that twelve month period in each district in which they are performing work and provide updates as noted above, as long as they are actively working in that district on a contract covered by the original submittal.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
**CONTRACTOR/SUBCONTRACTOR
EQUAL EMPLOYMENT OPPORTUNITY
INFORMATION REQUEST**

This report is developed to reflect the Total Employment of each Contracting firm performing Highway Construction Work in Virginia. It is to be used as a tool in evaluating the Contractor's posture to ensure equal employment opportunity. The requested information is to be submitted to the Resident Engineer prior to releasing the project for construction and is required of each subcontractor as part of the subletting request.

NAME OF COMPANY _____ CONTRACTOR _____

ADDRESS _____

SUBCONTRACTOR _____

FIRMS EEO OFFICER _____

Official Title _____

TOTAL COMPANY EMPLOYMENT AS OF _____ (updated report required each 6 months)
MONTH YEAR

EMPLOYMENT DATA

Report all permanent, temporary or part-time employees. Enter the appropriate figures on all lines and in all columns. Include apprentices and on-the-job trainees in appropriate job category totals.

Job Categories	All Employees			Minority Group Employees									
	Total (Col. 2+3)	Male	Female	Male					Female				
				Black American	Asian/ Indian American	Asian/ Pacific American	Native American	Hispanic American	Black American	Asian / Indian American	Asian/ Pacific American	Native American	Hispanic American
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
Officials & Managers													
Professionals (Engr. Etc.)													
Supervisors													
Foremen													
Clerical													
Equipment Operators													
Mechanics													
Truck Drivers													
Ironworkers													
Carpenters													
Cement Masons													
Electricians													
Pipefitters, Plumbers													
Painters													
Laborers (Unskilled)													
Other													
Total													

(Include all company employees enrolled in formal on-the-job training programs)

ON THE JOB TRAINEES	Operators												
	Craftsmen												

I certify that the employment data shown above represents the ethnic composition of the firm's employment.

Prepared by _____ Signature _____ Title _____ Date _____

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY CONSTRUCTION CONTRACTORS MONTHLY EEO REPORT**

PROJECT NO. _____
CONTRACT ID. NO. _____
REPORT for the MONTH & YEAR of _____

1. CHECK APPROPRIATE BLOCK CONTRACTOR <input type="checkbox"/> SUBCONTRACTOR <input type="checkbox"/>	2. NAME AND ADDRESS OF FIRM	3. FEDERAL AID PROJECT NUMBER	4. TYPE OF CONSTRUCTION
5. COUNTY AND STATE	6. PERCENT COMPLETE	7. BEGINNING CONSTR. DATE	8. DOLLAR AMOUNT OF CONTRACT
		9. ESTIMATED PEAK EMPLOYMENT MONTH & YEAR (a) NO. OF EMPLOYEES (b)	

10. EMPLOYMENT DATA

JOB CATEGORIES	TOTAL EMPLOYEES		TOTAL MINORITIES		BLACK Not of Hispanic Origin		HISPANIC		AMERICAN INDIAN or ALASKAN NATIVE		ASIAN or PACIFIC ISLANDER		WHITE Not of Hispanic Origin		APPRENTICES		ON THE JOB TRAINEES	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
OFFICIALS, Managers																		
SUPERVISORS																		
FOREMAN/WOMEN																		
CLERICAL																		
EQUIP. OPERATORS																		
MECHANICS																		
TRUCK DRIVERS																		
IRONWORKERS																		
CARPENTERS																		
CEMENT MASONS																		
ELECTRICIANS																		
PIPEFITTERS, PLUMBERS																		
PAINTERS																		
LABORERS, SEMI-SKILLED																		
LABORERS, UNSKILLED																		
TOTAL																		
APPRENTICES ON THE JOB TRAINEES																		

11. PREPARED BY: _____ (Signature and Title of Contractors Representative) _____ Date _____
 12. REVIEWED BY: _____ (Signature of Project Inspector) _____ Date _____

Summarize new hires for current Month indicating minorities, non-minorities and women by job categories (use additional forms if needed)
(See page 2 for instructions)

INSTRUCTIONS

THIS REPORT IS TO BE SUBMITTED TO THE DEPARTMENT BY EACH CONTRACTOR AND COVERED SUBCONTRACTOR EACH MONTH FOR THE FIRST THREE MONTHS OF THEIR WORK. SUBCONTRACTORS ARE TO REPORT CONTRACT AND EMPLOYMENT DATA PERTAINING TO THEIR SUBCONTRACT WORK ONLY.

THE STAFFING FIGURES TO BE REPORTED UNDER EMPLOYMENT DATA MUST REPRESENT THE PROJECT WORK FORCE ON BOARD IN WHOLE OR IN PART FOR THE LAST PAYROLL PERIOD PRECEDING THE END OF THE MONTH.

THE STAFFING FIGURES TO BE REPORTED IN TABLE A MUST INCLUDE JOURNEY-LEVEL MEN AND WOMEN, APPRENTICES, AND ON THE JOB TRAINEES AS INDICATED.

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
BASIC HOURLY RATES PAID BY CONTRACTOR**

Contractor: _____ Vendor No.: _____
 Project No.: _____ CONTID. No.: _____
 FHWA No.: _____ County/City of _____
 Decision No.: _____
 Report Period Ending Date: _____

List number of employees in each classification and basic hourly wage rates paid. DO NOT INCLUDE FRINGE BENEFITS. Do not show overtime rates. Include employees of all sub contractors.

23-26	(Computer Code)	27-28	30-33	34-36	37-40	41-43	44-47	48-50	51-54	55-57	58-61
0110	Asbestos Worker	@			@		@		@		@
0100	Asphalt Raker	@			@		@		@		@
2400	Blaster	@			@		@		@		@
0200	Carpenter, Structure	@			@		@		@		@
0300	Carpenter, Structure Helper	@			@		@		@		@
0400	Concrete Finisher	@			@		@		@		@
0500	Concrete, Finisher Helper	@			@		@		@		@
1510	Construction Worker I (Skilled Laborer)	@			@		@		@		@
1500	Construction Worker II (Laborer)	@			@		@		@		@
0550	Deckhand	@			@		@		@		@
0600	Electrician	@			@		@		@		@
0625	Electrician Helper	@			@		@		@		@
0800	Flaggers	@			@		@		@		@
1000	Fence Erector	@			@		@		@		@
0900	Form Setter	@			@		@		@		@
7200	Grade Checker	@			@		@		@		@
1010	Guardrail Erector	@			@		@		@		@
1600	Landscape Worker	@			@		@		@		@
1700	Mason, Structure	@			@		@		@		@
1800	Mechanic	@			@		@		@		@
4500	Oiler, Greaser	@			@		@		@		@

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
BASIC HOURLY RATES PAID BY CONTRACTOR**

Project No.: _____ Contractor: _____

23-26	(Computer Code)	27-28	30-33	34-36	37-40	41-43	44-47	48-50	51-54	55-57	58-61
2000	Painter	@			@		@		@		@
2100	Painter, Helper	@			@		@		@		@
2200	Pile Driver, Leadsman	@			@		@		@		@
2300	Pipe Layer	@			@		@		@		@
2310	Plumber	@			@		@		@		@
2320	Plumber, Helper	@			@		@		@		@
1100	Reinforcing Metal Worker	@			@		@		@		@
1200	Reinforcing Metal Worker Helper	@			@		@		@		@
2550	Sheet Metal Worker	@			@		@		@		@
2500	Sign Erector	@			@		@		@		@
1300	Structural Worker	@			@		@		@		@
1400	Structural Worker Helper	@			@		@		@		@
8000	Traffic Signal Installer/ Maintenance	@			@		@		@		@
8010	Traffic Signal Installer/ Maintenance Helper	@			@		@		@		@
0425	Waterproofers	@			@		@		@		@
6600	Welder	@			@		@		@		@
6610	Welder, Certified	@			@		@		@		@
2700	Air Compressor Operator	@			@		@		@		@
2800	Asphalt Distributor Operator	@			@		@		@		@
2900	Asphalt Paver Operator	@			@		@		@		@
3000	Backhoe Operator	@			@		@		@		@
3100	Bulldozer Operator	@			@		@		@		@
3200	Bulldozer Operator (Utility)	@			@		@		@		@
3300	Concrete Finish Machine Screed Operator (Bridge)	@			@		@		@		@
3500	Concrete Paving Machine Operator	@			@		@		@		@

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
BASIC HOURLY RATES PAID BY CONTRACTOR**

Project No.: _____ Contractor: _____

23-26	(Computer Code)	27-28	30-33	34-36	37-40	41-43	44-47	48-50	51-54	55-57	58-61
3400	Concrete Finish Machine Operator	@			@		@		@		@
3550	Concrete Pump Operator	@			@		@		@		@
6700	Concrete Saw Operator	@			@		@		@		@
3600	Crane, Derrick, Dragline Operator (1-cm & under)	@			@		@		@		@
3700	Crane, Derrick, Dragline Operator (over 1-cm)	@			@		@		@		@
3800	Crusher tender Operator	@			@		@		@		@
3900	Drill Operator	@			@		@		@		@
6800	Excavator Operator (Gradall Operator)	@			@		@		@		@
4100	Front End Loader Operator (2-cm & under)	@			@		@		@		@
4200	Front End Loader Operator (over 2-cm)	@			@		@		@		@
4210	Fuel & Lubricant Service Truck Driver	@			@		@		@		@
6900	Hydro-Seeder Operator	@			@		@		@		@
6910	Log Skidder Operator	@			@		@		@		@
6920	Mobile Mixer Operator	@			@		@		@		@
4300	Motor Grader Operator (Fine Grade)	@			@		@		@		@
4400	Motor Grader Operator (Rough Grade)	@			@		@		@		@
4050	Pavement Marking Truck Operator	@			@		@		@		@
4060	Pavement Marking Operator	@			@		@		@		@
2910	Pavement Planing Groundman	@			@		@		@		@
2905	Pavement Planing Operator	@			@		@		@		@
4600	Pile Driver Operator	@			@		@		@		@
4610	Pipe Boring /Jacking Machine Operator	@			@		@		@		@
4620	Boom /Auger Operator	@			@		@		@		@

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
BASIC HOURLY RATES PAID BY CONTRACTOR**

Project No.: _____ Contractor: _____

23-26	(Computer Code)	27-28	30-33	34-36	37-40	41-43	44-47	48-50	51-54	55-57	58-61
4700	Plant Operator	@		@		@		@		@	
4800	Power Tool Operator	@		@		@		@		@	
4900	Roller Operator (Rough)	@		@		@		@		@	
5000	Roller Operator (Finish)	@		@		@		@		@	
5100	Scraper Pan Operator	@		@		@		@		@	
5110	Shot Blast Machine Operator	@		@		@		@		@	
5200	Shovel Operator (2-yd & under)	@		@		@		@		@	
5300	Shovel Operator (over 2-yd)	@		@		@		@		@	
5325	Slip-Form Paver Operator	@		@		@		@		@	
5350	Slurry Seal Paver Machine Operator	@		@		@		@		@	
5375	Slurry Seal Paver Truck Operator	@		@		@		@		@	
5400	Stablizer Operator	@		@		@		@		@	
5500	Stone-Spreader Operator	@		@		@		@		@	
5600	Subgrade Machine Operator	@		@		@		@		@	
5700	Tractor Operator (Crawlers)	@		@		@		@		@	
5900	Transit Mix Truck Driver	@		@		@		@		@	
6000	Trenching Machine Operator	@		@		@		@		@	
6100	Truck Driver Heavy Duty (over 7 c.y.)	@		@		@		@		@	
6200	Truck Driver Heavy duty (7 c.y. & under)	@		@		@		@		@	
6300	Truck Driver (Multi-Rear Axle)	@		@		@		@		@	
6310	Truck Driver (Tandem Rear Axle)	@		@		@		@		@	
6400	Truck driver (Single rear Axle)	@		@		@		@		@	
6410	Vacuum Machine Operator	@		@		@		@		@	

I certify that the above information is correct and corresponds with payroll records for this project for the period

Signed: _____
(Contractor Representative Signature)

Date _____

This report is to be submitted every 90 days covering all employees working during that period.

For Departmental Use Only

Number and Rates Reviewed by: _____
(Name)

(Title)

STATEMENT OF COMPLIANCE

Date _____

I, _____ do hereby state:

(Name of signatory party) (Title)

(1) That I pay or supervise the payment of the persons employed by _____ on the _____; that during the payroll period commencing on the _____ day of _____ 19____ and ending the _____ day of _____, 19____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____

_____ from the full weekly wages earned by any person and that no deductions have been (Contractor or subcontractor)

made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 CFR Subtitle A), issued by the Secretary of Labor under the Copeland Act as amended (48 Stat. 948.63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 USC. 276c), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- In addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in Section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each Laborer or mechanic listed in the above referenced payroll has been paid as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

Remarks

Name and Title Signature

The wilful falsification of any of the above statements may subject the contractor or subcontractor to civil or criminal prosecution. See section 1001 of title 18 and section 231 of title 31 of the United States code

INSTRUCTIONS FOR PREPARATION OF STATEMENT OF COMPLIANCE

This statement of compliance meets needs resulting from the amendment of the Davis-Bacon Act to include fringe benefits provisions. Under this amended law, the contractor is required to pay fringe benefits as predetermined by the Department of Labor, in addition to payment of the minimum rates. The contractor's obligation to pay fringe benefits may be met by payment of the fringes to the various plans, funds, or programs or by making these payments to the employees as cash in lieu of fringes.

The contractor should show on the face of his payroll all monies paid to the employees whether as basic rates or as cash in lieu of fringes. The contractor shall represent in the statement of compliance that he is paying to others fringes required by the contract and not paid as cash in lieu of fringes. Detailed instructions follow:

Contractors who pay all required fringe benefits:

A contractor who pays fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor shall continue to show on the face of his payroll the basic cash hourly rate and overtime rate paid to his employees, just as he has always done. Such a contractor shall check paragraph 4(a) of the statement to indicate that he is also paying to approved plans, funds, or programs not less than the amount predetermined as fringe benefits for each craft. Any exception shall be noted in Section 4(c).

Contractors who pay no fringe benefits:

A contractor who pays no fringe benefits shall pay to the employee and insert in the straight time hourly rate column of his payroll an amount not less than the predetermined rate for each classification plus the amount of fringe benefits determined for each classification in the applicable wage decision. Inasmuch as it is not necessary to pay time and a half on cash paid in lieu of fringes, the overtime rate shall be not less than the sum of the basic predetermined rate, plus the half time premium on the basic or regular rate plus the required cash in lieu of fringes at the straighttime rate. To simplify computation of overtime, it is suggested that the straight time basic rate and cash in lieu of fringes be separately stated in the hourly rate column, thus \$3.25/.40. In addition, the contractor shall check paragraph 4(b) of the statement to indicate that he is paying fringe benefits in cash directly to his employees. Any exceptions shall be noted in Section 4(c).

Use of Section 4(c), Exceptions

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the employees as cash in lieu of fringes. Any exceptions to Section 4(a) or 4(b), whichever the contractor may check, shall be entered in Section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid the employees as cash in lieu of fringes, and the hourly amount paid to plans, funds, or programs as fringes.

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
ADDITIONAL CLASSIFICATION AND WAGE RATE REQUEST**

Note: See Instructions on page 2 before completing form.

TO: Division of Contract Wage Determinations (ESA) U. S. Department of Labor Room S 3012, 200 Constitution Avenue, N. W. Washington, D.C. 20210	1. PROJECT NUMBER
--	--------------------------

2. ORIGINATING OFFICE (Region, if Direct Federal) (If Federal Aid name and address of State Highway Agency)	3. DATE PREPARED
--	-------------------------

4. DATE OF CONTRACT AWARD	5. COUNTY	6. STATE
----------------------------------	------------------	-----------------

To complete the work provided for under the above contract, the following rate(s) for the indicated classification(s) not included in the Department of Labor Wage Rate Decision No. _____ (Date) _____ been proposed for the above described project.

7. CLASSIFICATION	7a. RATE	7b. EFFECTIVE DATE

AGREEMENT - Signatures below or representatives of the contractor and of the labor representative or the employee(s) concerned indicate their positions upon the rate(s) and classification(s) proposed above.

8. SIGNATURE OF (Check one) <input type="checkbox"/> LABOR REPRESENTATIVE <input type="checkbox"/> EMPLOYEE(S) <input type="checkbox"/> CONCUR <input type="checkbox"/> DO NOT CONCUR	9. CONTRACTORS REPRESENTATIVE (Signature) <input type="checkbox"/> CONCUR <input type="checkbox"/> DO NOT CONCUR
--	--

8a. TITLE OF LABOR REPRESENTATIVE	9a. TITLE OF CONTRACTOR REPRESENTATIVE
--	---

8b. DATE	9b. DATE
-----------------	-----------------

8c. LABOR ORGANIZATION	9c. CONTRACTOR (Name and Address)
-------------------------------	--

10. SUBMITTING OFFICIAL _____ (Date)	_____ (Name) _____ (Title)
---	---

IMPORTANT: THE PROPOSED CLASSIFICATION(S) AND/OR WAGE RATE(S) DO NOT BECOME OFFICIAL UNTIL THE WRITTEN APPROVAL OF THE UNITED STATES DEPARTMENT OF LABOR IS RECEIVED.

INSTRUCTIONS

This form is to be used for establishing additional classification(s) and wage rate(s) for Direct Federal and Federal-aid construction contracts pursuant to Title 29, Code of Federal Regulations, Section 5.5.

- Item 2 Originating Office: The Region is the originating office on Direct Federal projects. On Federal-aid projects the State Highway agency will originate the request.
- Item 7 Classification: The terminology used for additional classification shall conform to that used by the Department of Labor in the area; and rates shall not be less than the wage rates prevailing for the classifications involved as of the date of the original Department of Labor wage rate decision governing the project, or as of ten days preceding the opening bids, whichever is later.
- Item 8 Where the employee is a member of a union or other employee collective bargaining unit, the labor representative shall execute the form indicating concurrence or non-concurrence in the proposed classification(s) and/or rates(s). If the employee is not a member of such an organization, the employee shall execute the form indicating this concurrence or non-concurrence.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
**CONSTRUCTION DIRECTIVE
MEMORANDUM**

GENERAL SUBJECT:	UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES AND SMALL WOMEN AND MINORITY FIRMS	NUMBER:	CD-2007-6
SPECIFIC SUBJECT:	FORMS AND REQUIREMENTS ON FEDERAL AID AND STATE FUNDED CONTRACTS	DATE:	July 26, 2007
		SUPERSEDES:	CD-2000-9
		SUNSET/ EXPIRES:	July 26, 2012

Original with signature on file in the office of the
Scheduling and Contract Division

W. BYRON COBURN, JR., P.E.
STATE CONSTRUCTION ENGINEER

DIRECTED TO - DISTRICT ADMINISTRATORS

Please be advised of the following changes:

Form C-63 will only be required for submission to VDOT on a quarterly basis (see submittal dates in the Form C-63 instructions).

Form C-63A has been eliminated and the Civil Rights Division will utilize prompt payment monitoring procedures to monitor prompt payment compliance.

The prime Contractor will not receive DBE participation credit until the DBE firm(s) have received full payment.

Disallowed credit will not be required on Form C-63. The Civil Rights database will capture all disallowed credit.

Form C-63 shall also include payments to SWAMs.

A DBE progress narrative is required in lieu of a DBE progress schedule.

In order to ensure uniformity of application, the guidelines established herein concerning the administration of contract requirements involving Disadvantaged Business Enterprises and Small Women and Minority (DBE and SWAM) participation on contracts are being emphasized:

A. FORM C-63

Form C-63 includes the cumulative total to date of the allowable participation credit to be reported; the amount paid, and the title of the individual completing the form with signature. Form C-63 is executed quarterly and at Semifinal and Final estimate times.

All disallowed credit will be captured in the VDOT Civil Rights database and will not be required on Form C-63.

When reporting amounts paid to certified DBEs which are to be claimed as participation credit, retainage withheld by the Contractor will be included in the DBE participation credit after final payment has been made to the certified DBE firm.

DBE and SWAM names shown on Form C-63 must be checked to ensure that their certification was current at the time the contract and subcontract were executed. The names and certification numbers of DBE and SWAM firms shall be exactly as shown on the Department of Minority Enterprise's latest list of certified DBE and SWAM firms.

Form C-63s submitted for construction or maintenance contracts shall be checked in its entirety at the District level for accuracy, then transmitted to the District Civil Rights Manager, no later than the date specified in the Form C-63 reporting schedule (see Form C-63 instructions). The District Civil Rights Manager (DCRM) must ensure all forms are properly completed before forwarding to the Central Office Civil Rights Division.

On Federal projects, Form C-63 must be submitted within the time specified in the Form C-63 instructions and will be compared with the DBE progress narrative and Form C-111, to insure compliance. Failure to submit Form C-63 may result in delaying approval of the Contractor's monthly progress estimate for payment. If the Contractor fails to submit properly executed forms and/or refuses to re-submit corrected ones, the DCRM will recommend that the approval of the Contractor's monthly estimate for payment be delayed until such time as corrected documentation has been received and approved.

On Federal projects nearing completion, the Contractor shall submit Form C-63 marked Semi-Final within 20 days of the submission of the last regular estimate. This will be accompanied by a letter of certification, signed by the prime Contractor and appropriate DBE, indicating the amount, including any retainage, which remains to be paid.

Within 30 days of the payment of the final estimate on Federal projects, the Contractor shall submit Form C-63 marked Final. The Final Form C-63 will be compared with the Semi-Final submission to ensure that prompt and proper payment has been made to the DBE-subcontractors, and to make certain that the Contractor has fully complied with the requirements of the Special Provision for Section 110.04 of the Specifications.

Form C-63 submittal on State projects shall be in accordance with section 110.04 of the specifications.

B. DBE PROGRESS SCHEDULE

The Contractor shall submit to the Engineer its progress schedule as required by Section 103.06 of the Specifications or other such specific contract progress scheduling specification. The Contractor shall include a narrative of applicable DBE activities relative to work activities of the Contractor's progress schedule, including the approximate start times and durations of all DBE participation to be claimed for credit that shall result in full achievement of the DBE goal required in the contract.

On contracts awarded on the basis of good faith efforts as defined in Special Provision for Section 110.04, narratives or other agreeable format of schedule information requirements and subsequent progress made by the Contractor shall be based on the commitment information shown on the latest Form C-111 as compared with the appropriate Form C-63. These narratives are to be checked at the District level by the person in responsible charge of the project to ensure their accuracy and that they

represent a realistic time frame for achieving the required participation. The narratives are then forwarded to the DCRM for approval. Failure to submit these narratives within the required time frame may result in the withholding of the Contractor's first and all succeeding estimates until such narratives are submitted.

C. SUBMISSION OF FORM C-61 for STATE FUNDED PROJECTS

In accordance with Section 110.04 of the Specifications, within 14 days after the opening of bids in accordance with the requirements of Section 102.12, the apparent low bidder, as read at the bid opening, shall submit to the Department a fully executed Form C-61 indicating how the applicable potential achievements will be met, however:

The Department will no longer require the submission of Form C-61 for projects on which the Contractor does not intend to seek participation. The Contractor is required to submit the Form C-61 only if the firm intends to utilize SWAM Contractors for reporting purposes.

The changes as listed herein are effective July 1, 2007.

Your attention to the instructions herein will be appreciated, and will result in assuring more uniform administration of DBE and SWAM contract requirements, policies, and procedures.

- C: Commissioner
- Deputy Commissioner
- Commissioner's Staff
- Division Administrators
- District Construction Engineers
- District Maintenance Engineers
- District Materials Engineers
- District Preliminary Engineering Managers
- District Location and Design Engineers
- District Civil Rights Managers
- District Contract Administrators
- Regional Operations Directors
- Residency Administrators
- Area Construction Engineers
- Construction Managers
- Project Inspectors
- Federal Highway Administration
- Office of the Attorney General
- Virginia Department of Minority Business Enterprise
- Virginia Transportation Construction Alliance
- Old Dominion Highway Contractors Association
- Virginia Asphalt Association
- American Concrete Pavement Association
- Virginia Ready-Mixed Concrete Association
- Virginia Tech. Dept. of Civil Engineers
- Precast Concrete Association of Virginia
- Division

Library

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE AND SWAM PAYMENT COMPLIANCE REPORT

Page(s) _____ Of _____

(1a) Report No. _____
(1b) Period Ending _____

(2a) Federally Funded
 (2b) State Funded
 (2c) Order No. _____
 (2d) Date of Execution _____
 (2e) Contractor/Subcontractor _____
 (2f) Route No. _____
 (2g) Project No. _____
 (2h) Contract Id. No. _____
 (2j) District _____

(3) DBE and SWAM Firm Name, Certification No.	(4) Tax I.D. No.	(5) DBE and SWAM Category	(6) Allowable Credit of Contract or Agreement	(7) Allowable Credit		(8) Disallowed Credit (VDOT Use Only)		(9) Type of Work (Indicate Item Numbers & Work Description)
				(7a) This Quarter	(7b) To Date	(8a) This Quarter	(8b) To Date	
		DBE/MBE						
		DBE/MBE						
		DBE/MBE						
		DBE/MBE						
		DBE/WBE						
		DBE/MBE						
Total Dollar Amount Paid by Quarter and To Date by DBE and SWAM Category			DMBE DWBE SBE WBE MBE					

I/WE certify under penalty of law that the information provided herein is accurate, current, and complete to the best of my/our knowledge.

All "amounts paid" to certified DBE and SWAM firms are to be reported and submitted by VDOT's quarterly submittal schedule. See instructions.

Signature and Title of Company Official _____ Date _____
 Print Name and Phone Number of Individual Completing Report _____

**VIRGINIA DEPARTMENT OF TRANSPORTATION
INSTRUCTIONS FOR
DBE/SWAM PAYMENT COMPLIANCE REPORT – C63**

The Prime Contractor is required to submit a DBE Payment Compliance Report and requested to submit payments made to Small, Women-owned, and Minority-owned (SWAM) Business Enterprises for the designated quarterly reporting period. All amounts paid to **certified** DBE and SWAM businesses are subject to monitoring and enforcement mechanisms. It is the responsibility of the prime contractor to provide evidence of DBE and SWAM payments in response to monitoring and enforcement compliance reviews.

The instructions below correspond to each item on the report. Please follow the instructions.

- 1a. **Report No.**
Indicate the number of the report you are sending in sequence. For example: If this is the second report you are submitting, enter Report No. 2.
- 1b. **Period Ending**
Indicate the reporting period based on the Reporting Schedule listed in these instructions.
- 2a. **Federally Funded**
Indicate if contract is federally funded.
- 2b. **State Funded**
Indicate if contract is state funded.
- 2c. **Order No.**
Enter the "Call Order" number assigned to your project by VDOT
- 2d. **Date of Execution**
Enter the date the contract was executed by VDOT.
- 2e. **Contractor/Subcontractor**
Enter your company's name.
- 2f. **Route No.**
Enter the highway route number shown in your contract.
- 2g. **Project No.**
Enter the project number assigned to your project by VDOT.
- 2h. **Contract Id. No.**
Enter the contract identification number assigned to your project by VDOT.
- 2i. **FHWA No.**
Enter the FHWA number assigned to your project.
- 2j. **District**
Enter the District where the project under contract is located.
3. **DBE and SWAM Firm Name, Certification No.**
Enter all DBE/SWAM subcontractors utilized and their certification number.

4. **Tax I.D. No.**
Indicate the Federal Employer Identification No.

5. **DBE and SWAM Category** (As certified by the Virginia Department of Minority Business Enterprise)
Designate type of DBE/SWAM business:
DBE: DBE/MBE – Disadvantaged Minority-owned Business Enterprise
DBE/WBE – Disadvantaged Woman-owned Business Enterprise

SWAM: SBE – Small Business
MBE – Minority-Owned Business Enterprise
WBE – Woman-Owned Business Enterprise

6. **Allowable Credit of Contract or Agreement**
Dollar value of contract or agreement to be performed by the DBE and SWAM during the contract or agreement which is allowable for participation credit.

- 7a. **Allowable Credit This Quarter**
Dollar amount that can be credited for work performed in reporting quarter.

- 7b. **Allowable Credit To Date**
Dollar amount that can be credited for work performed since work commenced.

- 8a. **Disallowed Credit This Quarter**
Dollar amount of payment paid to DBE and SWAM that is NOT allowable for participation credit in reporting quarter.

- 8b. **Disallowed Credit To Date**
Dollar amount of payment that is NOT allowable for participation credit since work commenced.

9. **Type of Work** (Indicate Item Numbers)
State work item(s) performed and give description.

Effective July 1, 2007, All Form C-63s for a particular reporting period shall be submitted in an electronic format to the respective person in responsible charge in each District by the following dates of each calendar year.

REPORTING SCHEDULE

Quarter	Reporting Period	Date Due To Responsible VDOT Residency
1st	July 1 – September 30	Five (5) working days after the reporting period
2nd	October 1 – December 31	Five (5) working days after the reporting period
3rd	January 1 – March 31	Five (5) working days after the reporting period
4th	April 1 – June 30	Five (5) working days after the reporting period

If the submittal date falls on a weekend/holiday, the forms shall be submitted to the VDOT Responsible Charge District Office on the following business day.

INSTRUCTIONS FOR SAVING FORM C-63 DATA IN PDF FORMAT

Please be advised that the information that you have placed on the Form C-63 (PDF format) will not save to the file when you close the file. **To save your information while using the PDF format, you must use the correct procedures outlined below.**

** The following steps will describe the correct procedure for saving the data that you have placed on the PDF version of the Form C-63:

- Step #1** CLICK ON "File"
- Step #2** CLICK ON "Save A Copy"
- Step #3** CLICK ON "Save A Blank Copy"
- Step #4** ENTER your "Firm Name" as the File Name
- Step #5** ENTER the "Order Number" (see line 2c on Form C-63)
- Step #6** ENTER Underscore (_)
- Step #7** ENTER "Report Number" (see line 1a on Form C-63)
- Step #8** ENTER "Quarter Ending" (see line 1b on Form C-63)
- Step #9** ENTER the "Year" (last two digits only)
- Step #10** ENTER ".pdf" as the appropriate file ending

EXAMPLE:

Firm Name:	Vdot Construction Co.
Order No.:	A01
Report No.:	5
Quarter Ending:	1st Quarter (Jul. 1 – Sept. 30)
Year:	07

Using the information in the example, your file would be saved as:
vdotA01_050107.pdf

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
**CONSTRUCTION DIRECTIVE
MEMORANDUM**

GENERAL SUBJECT:	<u>FINAL ACCEPTANCE LETTER</u>	NUMBER:	<u>CD-2007-5</u>
		DATE:	<u>July 26, 2007</u>
SPECIFIC SUBJECT:	<u>DBE GOALS AND SWAM POTENTIAL ACHIEVEMENTS</u>	SUPERSEDES:	<u>CD-2000-8</u>
		SUNSET/ EXPIRES:	<u>July 26, 2012</u>

Original w/Signature on file in Office of Scheduling
and Contract Division

W. BYRON COBURN, JR., P.E.
STATE CONSTRUCTION ENGINEER

DIRECTED TO - DISTRICT ADMINISTRATORS

The following procedures will be followed in determining project compliance; specifically with meeting the Disadvantaged Business Enterprise (DBE) goals or Small Women and Minority (SWAM) potential achievements.

On Federal projects nearing completion, the Contractor shall submit a Form C-63 marked Semifinal within 20 days of the submission of the last regular estimate. This will be accompanied by a letter of certification, signed by the prime Contractor and appropriate DBE, indicating the amount, including retainage, that remains to be paid. Form C-63A will no longer be required. Payments to DBEs will be verified using prompt payment procedures.

At the final acceptance of the project, a determination must be made by the person in responsible charge of the project and the District Civil Rights Manager (DCRM) regarding the Contractor's compliance or non-compliance with the project's DBE goals on Federal projects, and SWAMs' potential achievements on State projects:

1. If the Contractor is in compliance, the responsible charge will notify the Contractor by letter that it is in compliance with the goals or potential achievements, as applicable, on the project. Copies of that letter will be sent to the State Construction Engineer (Scheduling & Contract Engineer) and to the Civil Rights Division.
2. If the Contractor is not in compliance, the responsible charge will notify the Contractor by letter that it is in non-compliance with the goals or potential achievements, as applicable, on the project. Copies of that letter will be sent to the State Construction Engineer and to the Civil Rights Division. ***Please note: When there is non-compliance on a Federal Project, this letter is critical in that it establishes a specific point from which to measure the various time frames if the Contractor wants to request a panel hearing.***

On Federal projects, within 30 days of the payment of the Final estimate, the Contractor shall submit a Form C-63 marked Final. The final Form C-63 will be compared with the Semifinal submissions to assure proper payment has been made to the DBE subcontractors and make certain that the Contractor has fully complied with the requirements of Special Provision for Section 110.04 of the specifications.

Attached are example letters for anticipated conditions, i.e., DBE goals met; DBE goals not met; no DBE goals; SWAM potential achievements met; SWAM potential achievements not met; no SWAM potential achievements. It is imperative that the language in bold type be included in the actual letter sent in accordance with the applicable condition(s).

C: Commissioner
Deputy Commissioner
Commissioner's Staff
Division Administrators
District Construction Engineers
District Maintenance Engineers
District Materials Engineers
District Preliminary Engineering Managers
District Location and Design Engineers
District Civil Rights Managers
District Contract Administrators
Regional Operations Directors
Residency Administrators
Area Construction Engineers
Construction Managers
Project Inspectors
Federal Highway Administration
Office of the Attorney General
Virginia Department of Minority Business Enterprise
Virginia Transportation Construction Alliance
Old Dominion Highway Contractors Association
Virginia Asphalt Association
American Concrete Pavement Association
Virginia Ready-Mixed Concrete Association
Virginia Tech. Dept. of Civil Engineers
Precast Concrete Association of Virginia
Division Library

EXAMPLE LETTER FOR DBE GOALS NOT MET FEDERAL PROJECTS

>Date

>Contractor Name
>P.O. Box
>City, State Zip

ATTN: >

SUBJECT: Project Number
Final Inspection

To Addressee:

In accordance with your letter dated (DATE), a final inspection has been made on the above mentioned project on (DATE) with the following in attendance:

As authorized by the Chief Engineer, the work on the referenced project is deemed completed to the satisfaction of the Chief Engineer and the project is accepted as of (DATE).

This project has a > _____ percent DBE goal. At this writing, our records indicate the DBE goals have not been met. Paragraph 1 of the section on During the Contract, in Special Provision 110.04 states, "If the Contractor fails upon completion of the project to meet the required participation, the Contractor and any prime contractor affiliates, as in the case of a joint venture, may be enjoined from bidding as a prime Contractor, or participating as a subcontractor on VDOT projects for a period of 90 days."

Paragraph 2 of the section on During the Contract, in Special Provision 110.04 states, "Prior to enjoinder from bidding or denial to participate as a subcontractor for failure to comply with participation requirements, as provided hereinbefore, the Contractor may submit documentation to the Construction Engineer to substantiate that failure was due solely to quantitative underrun(s) or elimination of items subcontracted to DBEs and that all feasible means have been used to obtain the required participation. The Construction Engineer, upon verification of such documentation, shall make a determination whether or not the Contractor has met the requirements of the Contract."

Paragraph 3 of the aforementioned provision states, "If it is determined that the aforementioned documentation is insufficient or the failure to meet required participation is due to other reasons, the Contractor may request an appearance before the Administrative Reconsideration Panel to establish that all feasible means were used to meet such participation requirements."

If you elect to request an administrative review, as mentioned in Paragraph 2 of the section on During the Contract, of Special Provision 110.04, or a panel hearing, as mentioned in Paragraph 3 of the aforementioned provision, you are to advise the State Construction Engineer, 1401 East Broad Street, Richmond, Virginia, 23219, in writing, within 14 days of the date of this correspondence. Failure to make this written request within the time specified will result in an automatic ninety (90) day enjoinder. Any relevant documentation that you want to be considered by the Panel should be included in your panel hearing request. A panel hearing brochure is attached for your information.

Within forty-five (45) days of the final acceptance of the project, all required forms, certifications, and releases are due. Failure to submit these forms may extend the ninety (90) day time limit for final payment in accordance with Section 109.09 of the Specifications.

Sincerely,

Title (Responsible Charge of Project)

>SEC/RE

cc: Malcolm T. Kerley, P.E.
DBE Section – Civil Rights Division

EXAMPLE LETTER FOR DBE GOALS MET FEDERAL PROJECTS

>Date

>Contractor Name
>P.O. Box
>City, State Zip

ATTN: >

SUBJECT: Project Number
Final Inspection

To Addressee:

In accordance with your letter dated (DATE), a final inspection has been made on the above mentioned project on (DATE) with the following in attendance:

As authorized by the Chief Engineer, the work on the referenced project is deemed completed to the satisfaction of the Chief Engineer, and the project is accepted as of (DATE).

The project had a >_____ percent DBE goal. At this writing, our records indicate the DBE requirements will be met.

Within forty-five (45) days the final acceptance of the project, all required forms, certifications, and releases are due. Failure to submit these forms may extend the ninety (90) day time limit for final payment in accordance with Section 109.09 of the Specifications.

Sincerely,

Title (Responsible Charge of Project)

>SEC/RE

cc: Malcolm T. Kerley, P.E.
DBE Section – Civil Rights Division

EXAMPLE LETTER FOR NO DBE GOALS FEDERAL PROJECTS

>Date

>Contractor Name
>P.O. Box
>City, State Zip

ATTN: >

SUBJECT: Project Number
Final Inspection

To Addressee:

In accordance with your letter dated (DATE), a final inspection has been made on the above mentioned project on (DATE) with the following in attendance:

As authorized by the Chief Engineer, the work on the referenced project is deemed completed to the satisfaction of the Chief Engineer, and the project is accepted as of (DATE).

There were no DBE goals on this project.

Within forty-five (45) days of the final acceptance of the project, all required forms, certifications, and releases are due. Failure to submit these forms may extend the ninety (90) day time limit for final payment in accordance with Section 109.09 of the Specifications.

Sincerely,

Title (Responsible Charge of Project)

>SEC/RE

cc: Malcolm T. Kerley, P.E.
DBE Section – Civil Rights Division

EXAMPLE LETTER FOR SWAM POTENTIAL ACHIEVEMENTS MET STATE PROJECTS

>Date

>Contractor Name
>P.O. Box
>City, State Zip

ATTN: >

SUBJECT: >Project Number
Final Inspection

To Addressee:

In accordance with your letter dated (DATE), a final inspection has been made on the above mentioned project on (DATE) with the following in attendance:

As authorized by the Chief Engineer, the work on the referenced project is deemed completed to the satisfaction of the Chief Engineer, and the project is accepted as of (DATE).

At this writing, our records indicate the SWAM potential achievements committed on this state-funded project will be met.

Within forty-five (45) days of the final acceptance of the project, all required forms, certifications, and releases are due. Failure to submit these forms may extend the ninety (90) day time limit for final payment in accordance with Section 109.09 of the Specifications.

Sincerely,

Title (Responsible Charge of Project)

>SEC/RE

cc: Malcolm T. Kerley, P.E.
DBE Section – Civil Rights Division

EXAMPLE LETTER FOR NO SWAM POTENTIAL ACHIEVEMENTS STATE PROJECTS

>Date

>Contractor Name
>P.O. Box
>City, State Zip

ATTN: >

SUBJECT: >Project Number
Final Inspection

To Addressee:

In accordance with your letter dated (DATE), a final inspection has been made on the above mentioned project on (DATE) with the following in attendance:

As authorized by the Chief Engineer, the work on the referenced project is deemed completed to the satisfaction of the Chief Engineer, and the project is accepted as of (DATE).

There were no SWAM potential achievements on this project.

Within forty-five (45) days of the final acceptance of the project, all required forms, certifications, and releases are due. Failure to submit these forms may extend the ninety (90) day time limit for final payment in accordance with Section 109.09 of the Specifications.

Sincerely,

Title (Responsible Charge of Project)

>SEC/RE

cc: Malcolm T. Kerley, P.E.
DBE Section – Civil Rights Division

EXAMPLE LETTER FOR SWAM POTENTIAL ACHIEVEMENTS NOT MET STATE PROJECTS

>Date

>Contractor Name
>P.O. Box
>City, State Zip

ATTN: >

SUBJECT: Project Number
Final Inspection

To Addressee:

In accordance with your letter dated (DATE), a final inspection has been made on the above mentioned project on (DATE) with the following in attendance:

As authorized by the Chief Engineer, the work on the referenced project is deemed completed to the satisfaction of the Chief Engineer, and the project is accepted as of (DATE).

At this writing, our records indicate the SWAM potential achievements committed on this state-funded project will not be met. If appropriate, please provide documentation from the SWAM Contractors advising they could not or would not perform the work as noted on Form C-61. If the potential achievements were not met due to quantitative underrun(s) or elimination of items subcontracted, please state it with the correspondence from the SWAM.

If you are unable to obtain this information from the SWAM, please provide documentation concerning why the committed potential achievements were not met. Also, provide documentation of your good faith efforts to obtain a substitute SWAM to perform an equal or greater dollar value of work.

Within forty-five (45) days of the final acceptance of the project, all required forms, certifications, and releases are due. Failure to submit these forms may extend the ninety (90) day time limit for final payment in accordance with Section 109.09 of the Specifications.

Sincerely,

Title (Responsible Charge of Project)

>SEC/RE

cc: Malcolm T. Kerley, P.E.
DBE Section – Civil Rights Division

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION FEDERAL-AID HIGHWAY CONSTRUCTION CONTRACTOR'S SEMIANNUAL TRAINING REPORT	REPORTS CONTROL SYMBOL HHO-30-16 FEDERAL-AID PROJECT NO.
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INSTRUCTIONS: This report is to be completed by the contractor semiannually for each individual employed on this contract (including any subcontracts under it who has received training during the reporting period under the training special provision (attachment 2 FHPM 6-4-1.2)). The report is to be submitted by the 20th of the month following the reporting period, (July 20, and January 20). The original of this report is to be furnished to the trainee and two copies submitted to the State Highway Department.

1. NAME OF CONTRACTOR		1A. ADDRESS	
2. NAME OF TRAINEE		2A. SEX <input type="checkbox"/> M <input type="checkbox"/> F	2B. ADDRESS
3. AGE OF TRAINEE	4. SOCIAL SECURITY NUMBER	5. EMPLOYEE STATUS (CHECK ONE) <input type="checkbox"/> NEW HIRE <input type="checkbox"/> UP-GRADE	
6. ETHNIC GROUP DESIGNATION (CHECK ONE) <input type="checkbox"/> NEGRO <input type="checkbox"/> ORIENTAL <input type="checkbox"/> AMERICAN INDIAN <input type="checkbox"/> SPANISH AMERICAN <input type="checkbox"/> OTHER			
7. SUMMARY OF PREVIOUS TRAINING: (ENTER AMOUNT AND TYPE OF TRAINING RECEIVED BY TRAINEE ON OTHER CONTRACTS UNDER APPROVED TRAINING PROGRAMS)			
8. JOB CLASSIFICATION OF TRAINEE		9. DATE TRAINING STARTED ON THIS CONTRACT	10. TYPE OF ON THE JOB TRAINING (CHECK ONE) <input type="checkbox"/> APPRENTICESHIP <input type="checkbox"/> OTHER

REPORTING PERIODS

INSTRUCTIONS: One vertical column is to be completed for each succeeding reporting period and the form submitted. Enter June 30, Dec. 30, as applicable in columns A thru H below.

		A	B	C	D	E	F	G	H
HOURS OF TRAINING DATA		19 ____	19 ____	19 ____	19 ____	19 ____	19 ____	19 ____	19 ____
11.	PROVIDED DURING REPORT PERIOD								
	PROVIDED TO DATE								
13.	REMAINING TO COMPLETE THE APPROVED PROGRAM								

14. TERMINATION (IF TRAINING WAS TERMINATED PRIOR TO COMPLETION OF APPROVED PROGRAM EXPLAIN REASON FOR TERMINATION)

15. REPORT PREPARED BY (SIGNATURE AND TITLE OF CONTRACTOR'S REPRESENTATIVE)	16. DATE
16. REPORT REVIEWED BY (SIGNATURE AND TITLE OF STATE HIGHWAY OFFICIAL)	17. DATE

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
TRAINEE
ENROLLMENT FORM
ON-THE-JOB TRAINING**

**FORM C-65
Rev. 1-1-87**

Date: _____

Federal Project Number: _____

Route: _____ Project: _____

Contractor: _____
(Always show Prime Contractor)

Subcontractor: _____

Name of Trainee: _____ Training Program Selected:

Address: _____ Carolinas AGC
 _____ VRBA

Social Security Number: _____ Other: _____*

Identification: White _____ Black _____ American Indian _____ Oriental _____ Hispanic _____

Vietnam Era Veteran: Yes _____ No _____ Age _____ Sex _____

Trainee Job Classification: _____ Length of Training _____ Hours

Date Training Started: _____

Trainee Minimum Wage Rates: \$ _____ for _____ Hrs. Trainee is: New Hire _____
 (Show actual wage rates to \$ _____ for _____ Hrs. Upgrade _____
 be paid by Contractor) \$ _____ for _____ Hrs. Upgrade from: _____
 Wage Rate \$ _____ after completion

Summary of previous Training: (Show approximate hours of previous training received on other contracts in this job classification as per *interview with the Trainee*). _____

Trainee Signature

Project Inspector

Contractor Representative

Title

Recommended for Approval _____
Resident Engineer

Approved _____
District Administrator

copies - Contractor
Trainee
District Office (3)
Department E.O. Coordinator (3)

*Explain and attach training schedule

(For C. O. use only)		
Qtr. End.	Hrs. Compl.	Hrs. Due
1		
2		
3		
4		

COMMONWEALTH OF VIRGINIA
VIRGINIA DEPARTMENT OF TRANSPORTATION
MINIMUM DBE REQUIREMENTS

PROJECT NO: _____

FHWA NO: _____

***** INSTRUCTIONS *****

Section II of this form is to be used by the Contractor to submit the names of DBE firms to be utilized on the project. Additional sheets to show the allowable credit per item may be attached if necessary. **Note:** If 100% of an item is not to be performed or furnished by the DBE, describe the portion and percentage to be performed or furnished by the DBE.

SECTION I:

DBE REQUIREMENT _____ %

SECTION II:

PERCENTAGE ATTAINED BY BIDDER _____ %

NAME(s) AND CERTIFICATION NO. OF DBE(s) TO BE USED	TYPE OF WORK & ITEM NO(s)	PERCENT OF WORK	AMT. OF ALLOWABLE CREDIT PER ITEM
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

TOTAL: \$ _____

Total Contract Value \$ _____ X Required DBE _____ % = \$ _____

I/WE certify that the proposed DBE(s) submitted will be used on this contract as stated hereon and assure that during the life of the contract, I/We will meet or exceed the participation established hereon by the Department.

_____ By _____
 BIDDER SIGNATURE

_____ DATE
 TITLE

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
CERTIFICATION OF BINDING AGREEMENT

Project No.: _____

Federal Project No.: _____

It is hereby certified by the below signed Contractors that there exists a written quote acceptable to both parties preliminary to a binding subcontract agreement stating the details concerning the work to be performed and the price which will be paid for the aforementioned work. A copy of the fully executed subcontract agreement shall be submitted to the Engineer no later than seven (7) working days prior to the Notice to Proceed.

It is further certified that the aforementioned mutually acceptable quote and fully executed subcontract agreement represent the entire agreement between the two parties and that no conversations, verbal agreements, or other forms of non-written representations shall serve to add to, delete, or modify the terms as stated.

The prime Contractor further represents that the aforementioned mutually acceptable quote and fully executed subcontract agreement shall remain on file for a period of not less than one year following completion of the prime's contract with the Department or for such longer period as provisions of governing Federal or State law or regulations may require.

Contractors further jointly and severally represent that said binding agreement is for the performance of a "commercially useful function" as that term is employed in 49 C.F.R. Part 26.55 (c), (d).

DBE/WBE Contractor _____

By: _____
Signature Title
Date: _____

Prime Contractor: _____

By: _____
Signature Title
Date: _____

Note: This document is not intended to, nor should it be construed to, contain the entire text of the agreement between the contracting parties. This document does not take the place of, nor may it be substituted for, an official subcontracting agreement in those situations that may require such an agreement.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

--DO NOT DETACH--

**THIS INFORMATION MUST BE SUBMITTED
WITH YOUR BID PROPOSAL IF YOUR BID DOES
NOT MEET **THE PROJECT DBE REQUIREMENTS**,
OR
WHEN REQUESTED BY VDOT**

CONTRACT I.D. NUMBER _____

PROJECT NUMBER _____

FHWA NUMBER _____

DISTRICT _____

DATE BID SUBMITTED _____

BIDDER'S NAME _____

SIGNATURE _____

TITLE _____

VENDOR NUMBER _____

DBE GOAL FROM BID PROPOSAL _____

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

NAMES OF CERTIFIED DBEs AND THE DATES ON WHICH THEY WERE SOLICITED TO BID ON THIS PROJECT

INCLUDE THE ITEMS OF WORK OFFERED AND THE DATES AND METHODS USED FOR FOLLOWING UP INITIAL SOLICITATIONS TO DETERMINE WHETHER OR NOT DBEs WERE INTERESTED.

NAMES AND VENDOR NUMBERS OF DBEs SOLICITED	DATE OF INITIAL SOLICITATION	ITEM(S) OF WORK	FOLLOW-UP METHODS AND DATES

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

ATTACH COPIES OF SOLICITATIONS, TELEPHONE RECORDS, FAX CONFIRMATIONS, ELECTRONIC INFORMATION, ETC.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

TELEPHONE LOG

DBE(s) CALLED	TELEPHONE NUMBER	DATE CALLED	TIME CALLED	CONTACT PERSON OR VOICE MAIL STATUS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA
 DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

ITEM(S) OF WORK THAT THE BIDDER MADE AVAILABLE TO DBE FIRMS

IDENTIFY THOSE ITEM(S) OF WORK THAT THE BIDDER MADE AVAILABLE TO DBE FIRMS OR THOSE ITEM(S) THE BIDDER IDENTIFIED AND DETERMINED TO SUBDIVIDE INTO ECONOMICALLY FEASIBLE UNITS TO FACILITATE DBE PARTICIPATION. FOR EACH ITEM LISTED, SHOW THE DOLLAR VALUE AND PERCENTAGE OF THE TOTAL CONTRACT AMOUNT. IT IS THE BIDDER'S RESPONSIBILITY TO DEMONSTRATE THAT SUFFICIENT WORK TO MEET THE GOAL WAS MADE AVAILABLE TO DBE FIRMS.

ITEM(S) OF WORK MADE AVAILABLE	BIDDER NORMALLY PERFORMS ITEM(S) (Y/N)	ITEM(S) BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT IN DOLLARS	PERCENTAGE OF CONTRACT

NOTE: INFORMATION REQUIRED FOR THIS SECTION CONTINUED ON SHEET 5
 ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

**ADDITIONAL INFORMATION REGARDING ITEM(S) OF WORK THAT THE
BIDDER MADE AVAILABLE TO DBE FIRMS** (Continued From Sheet 4)

ITEM(S) OF WORK MADE AVAILABLE, NAMES OF SELECTED FIRMS AND DBE STATUS, DBEs THAT PROVIDED QUOTES, PRICE QUOTE FOR EACH FIRM, AND THE PRICE DIFFERENCE FOR EACH DBE IF THE SELECTED FIRM IS NOT A DBE.

ITEM(S) OF WORK MADE AVAILABLE(CONT.)	NAME OF SELECTED FIRM AND VENDOR NUMBER	DBE OR NON-DBE	NAME OF REJECTED FIRM(S)	QUOTE IN DOLLARS	PRICE DIFFERENCE IN DOLLARS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

IF THE FIRM SELECTED FOR THE ITEM IS NOT A DBE, PROVIDE THE REASON(S) FOR THE SELECTION ON A SEPARATE PAGE AND ATTACH.

PROVIDE NAMES, ADDRESSES, AND TELEPHONE NUMBERS FOR THE FIRMS LISTED ABOVE.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

ADVERTISEMENTS OR PROOFS OF PUBLICATION.

NAMES AND DATES OF EACH PUBLICATION IN WHICH A REQUEST FOR DBE PARTICIPATION FOR THE PROJECT WAS PLACED BY THE BIDDER. ATTACH COPIES OF PUBLISHED ADVERTISEMENTS OR PROOFS OF PUBLICATION.

PUBLICATIONS	DATES OF ADVERTISEMENT

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

NAMES OF AGENCIES CONTACTED TO PROVIDE ASSISTANCE

NAMES OF AGENCIES (SEE SPECIAL PROVISION FOR 110.04) AND THE DATES THESE AGENCIES WERE CONTACTED TO PROVIDE ASSISTANCE IN CONTACTING, RECRUITING, AND USING DBE FIRMS. IF THE AGENCIES WERE CONTACTED IN WRITING, ATTACH COPIES OF SUPPORTING DOCUMENTS.

NAME OF AGENCY	METHOD AND DATE OF CONTACT	RESULTS

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

TECHNICAL ASSISTANCE AND INFORMATION PROVIDED TO DBEs

EFFORTS MADE TO PROVIDE INTERESTED DBEs WITH ADEQUATE INFORMATION ABOUT THE PLANS, SPECIFICATIONS, AND REQUIREMENTS OF THE BID DOCUMENTS TO ASSIST THE DBEs IN RESPONDING TO A SOLICITATION.

IDENTIFY THE DBEs ASSISTED, THE INFORMATION PROVIDED, AND THE DATE OF CONTACT. ATTACH COPIES OF SUPPORTING DOCUMENTS.

DBEs ASSISTED	INFORMATION PROVIDED	DATE OF CONTACT

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
DBE GOOD FAITH EFFORTS DOCUMENTATION

CONTRACT I.D. NO. _____ DATE SUBMITTED _____

IF THE DBE GOAL ESTABLISHED FOR THIS CONTRACT HAS NOT BEEN MET OR VDOT REQUESTS THE SUBMITTAL THEREOF, THE BIDDER IS REQUIRED TO SUBMIT GOOD FAITH EFFORTS AS OUTLINED IN THIS DOCUMENT.

THE BIDDER ACKNOWLEDGES AND CERTIFIES THAT THIS FORM ACCURATELY REPRESENTS THE INFORMATION CONTAINED HEREIN.

BIDDER _____ SIGNATURE _____

TITLE _____

EFFORTS MADE TO ASSIST DBEs OBTAIN BONDING, LINES OF CREDIT, INSURANCE, ETC.

EFFORTS MADE TO PROVIDE INTERESTED DBEs IN OBTAINING BONDING, LINES OF CREDIT, INSURANCE, NECESSARY EQUIPMENT, SUPPLIES, MATERIALS, OR RELATED ASSISTANCE OR SERVICES, EXCLUDING SUPPLIES AND EQUIPMENT THE SUBCONTRACTOR PURCHASES OR LEASES FROM THE PRIME CONTRACTOR OR ITS AFFILIATES.

IDENTIFY THE DBEs ASSISTED, THE ASSISTANCE OFFERED, AND THE DATES OF SERVICES OFFERED AND PROVIDED. ATTACH COPIES OF SUPPORTING DOCUMENTS.

DBEs ASSISTED	ASSISTANCE OFFERED	DATES SERVICES OFFERED AND/OR PROVIDED

NOTE: ATTACH ADDITIONAL PAGES IF NECESSARY.

(c518a0b-0702) **SECTION 518.02(a) NUMBER OF TRAINEES** is amended to replace the first sentence of the first paragraph with the following:

The number of trainees to be trained for this contract will be _____.

6-29-92c, Reissued 7-9-02 (SPCN)